The Builder.

No. CCXIII.

SATURDAY, MARCH 6, 1847.

THE force of habit, dislike of change, and inability of men to invent, are strikingly shewn in architectural productions all over the world. The first rude habitations of a country, regulated by the materials at hand, the climate, the wants of the inhabitants, and the means at their disposal, or when obtained from another country, appear to have influenced all after productions. The original type is discoverable to the last; and, even where circumstances have led to the use of another material, or a change in the purpose of the structure, it has been, during a long period, but slightly departed from, and that by slow and almost imperceptible degrees. The buildings of the Chinese, to mention one country, afford a curious and striking illustration of the fact. The tents of their herdsmen-ancestors are to be seen in their houses, palaces, and pagodas of to-day; so much so, that their towns look like encampments; and Hope says, that when Lord Macartney, after crossing the whole of the Chinese empire, from south to north,—from Canton to the great wall, its furthest length,—was received by the emperor in a real tent, he scarcely perceived any difference between that and the thousands of stationary buildings he had viewed during his journey.

Egypt, India, Greece, Rome, would all afford corroboration of the remark if it were needed, although, perhaps, neither so much so as the extraordinary country before named, where progress seems forbidden, and expansion of mind is out of the question. "So far, but no farther," say there the rulers of the people in all things. If a Chinese does not acquire a certain amount of knowledge, he is deemed infamous, and loses certain rights; but if he pass the prescribed bounds, and gains more information than is legally necessary, he is looked upon as dangerous, and loses perhaps his life.

Oh! happy Englishmen, if we would but feel it so; to whose intellectual and moral advancement, no bounds are marked but those raised by our own ignorance, wilfulness, or weakness!

A few days ago we saw a very interesting representation of a Chinese house, made in that country. Immediately after the termination of the late war, Mr. Morson, of Southampton-row, sent to China for accurate drawings and descriptions of the principal druggist's shop in Canton. It was found difficult to obtain drawings which would clearly convey all that was desired, but not so to have a model made; and, accordingly, native artificers were employed to construct, in small, an exact counterpart of a shop and house complete; and this is now in Mr. Morson's possession, and supplies information as to the construction of Chinese dwellings, which was not to be obtained at "The Chinese Exhibition." The house is two stories in height, connected by a step-ladder; it has a room behind the shop, and two rooms on the upper floor, and is covered with an M roof, or roof of two spans from front to back. The upper room is lighted by a series of openings in the front wall, which have perforated wooden shutters. These openings also give light to part of the shop below, by means of a large trap in the upper floor. The upper back room is lighted by a narrow uncovered opening in the roof, at the junction of the two spans (the "valley"), extending the whole width of the house. A similar opening in the floor, protected by a light railing, as is the opening in the front room, gives light and air to the room below. The rudeness and wastefulness (in space) of this mode of lighting are too obvious to need remark. There are, moreover, two small openings on each side of the house to admit air. The frontage is about 20 feet, and the depth of the house about 24 feet.

The shop front is open to the street, but has wooden shutters to close it at night. The construction, even in this case, recalls in the mind of the observer the original type to which we have alluded, and will serve to take us back to the point whence the mention of this model has led us to digress,—the natural adherence of men to forms previously used, their love of precedent, and the deduction it was our purpose to make when we commenced these observations.

The deduction, an obvious one, but nevertheless little attended to, is this,—that nations who appreciate the influence of fine buildings and fine art generally on the character, and would advance in that direction, should keep a most jealous watch upon every public building that is about to be erected, with the view of preventing the increase of bad taste. Each building that is raised influences the appearance of many others; and one weakness or monstrosity begets a thousand. It is impossible to calculate the mischief which may be done to architecture as an art by even one building, or say how long its advance may be retarded by it. The extent to which a design affects the architecture of the time may be seen every day. Nothing is too ugly to be copied when once erected, and every repetition will play its part in further vitiating public taste, and preparing the way for worse.

To compare very small things and very trifling effects with large,—we may mention an exemplification under our eye at this moment. Two or three years ago, in the ordinary course of an every-day practice, we "beautified" with compo the front of an old house, up to that time rejoicing in the unadorned simplicity of brick; and one by one four neighbouring houses have since been made by their various owners to take precisely the same form, its defects, in particular, being scrupulously repeated.

We repeat what we have already said, that the art-loving portion of the public should watch most jealously the erection of every public building, and insist upon having the most satisfactory assurance that what is about to be done will be creditable to the nation, before they suffer the public money to be expended.

BRITISH EMBASSY IN TURKEY BURNT.—The Constantinopolitan correspondent of the *Daily News* reports that the British Embassy at Pera, in Turkey, is a total wreck, together with no less than ninety houses adjoining it and each other, from fire, originating in a house next to the residence of the *attachés* of the embassy. The terror, as usual in such wooden and combustible food for flames as those consumed, was extreme and universal, being by no means confined to the neighbourhood suffering under the infliction. The embassy itself, however, was of stone, with iron shutters and doors, and so far withstood the flames but the furniture, window woodwork, &c., were destroyed. The Italian theatre, too, and some of the best houses in Pera, are involved in the ruin.

THE PROFESSION OF THE ARCHITECT CONSIDERED:

ITS OBJECTS, MODE OF OPERATION, AND OBSTACLES.

THE profession of the architect, and its position, generally, in the world, have afforded matter for comment in our pages on several occasions. We have endeavoured to call the attention of our brethren to the unsatisfactory position of many departments of the art and profession, in the hope that the vague complaints, many of which have found utterance in the letters of correspondents, might be so far analyzed as to induce an accurate conception of the present state of architectural practice, and some determined effort to place architecture in its proper position, as an art, as a science, as a means of success in life, and as a power, capable of conducing to the highest amount of mental gratification and improvement, of conferring benefits of the utmost influence upon general happiness and comfort, in the social state. It is extremely important to the welfare of the professors of architecture, that they should carefully consider the obstacles to which their peculiar profession is exposed, and clear away that opaque medium which seems to interfere between them and the notice of the public. Too often, the hurry of the daily struggle leaves little time for reflection on the means by which many difficulties might be removed, but we are sure, that greater impediments attend the progress of the architect than are ordinarily to be found in other professions, or than are to be classed amongst the difficulties, from which no man's lot is free. It is manifest, if this be the case, as we hope to be able to shew, that it is to the happiness and welfare, not only of architects, but of every member of the community, that these causes should be removed, that well-directed efforts should bring their expected reward to the individual, and not remain, as now, profitless to the public. It is painful in any case, to see the energies of a life wasted in incessant labour without result, when the mere indication of an aid would render the same exertions productive and beneficial; though the world will always supply instances of such circuitous and misapplied labour. But the case is pregnant with matter for deep reflection, when it is that of a whole profession, and one which has legitimate means of exercise, so eminently conducive to the public good.

To expose all the impediments, which beset the progress of architecture, and prevent its attaining its due rank as a study, an art, a science, and a profession, to terminate the reproach, that it is "the only branch of human ingenuity which remains an exception to this century,"—words which have been extensively quoted from our pages,—is a task difficult enough for one pen, yet worthy the effort. We long since reminded our readers, that the "ostensible profession" of architecture did not form the "main pursuit," and that in the actual profession, "valuations, surveys, arbitrations, and other kinds of business less connected with the art" occupied a larger amount of the architect's attention than they might be required to do, did architects exert themselves to diffuse a general knowledge of the value of their time and labours, when employed in the higher branches of their profession. Besides the space we devoted to different features of the subject, other efforts have been made, though not precisely in the same road, and as we considered at the time, somewhat misdirected, however much we concurred in their main intended object. It is essential that the important and leading features of the case should be stated, and that no further errors or misconceptions should be added to those which at present exist to the detriment of architecture. It must be recollected, that we address the public, rather than a profession; and we know well how hard it is to eradicate any erroneous conclusions extensively circulated. A certain degree of infallibility will always be attached by the general public to what has come from the press; and it greatly behoves those who know they are dealing with the vital interests of an art and a profession, to weigh well what will be the translation made of any particular statement.

The impediments to the progress of architecture, exerted mainly through the medium of the practice of its professors, we say, have never yet been enumerated. Perhaps no individual has occupied himself much in tracing to their causes, the obstacles of which from time to time, be

has had personal experience, whilst the full amount of the evils is, we are convinced, hardly suspected or understood, though so far important, if only as a matter of national concern, as to be worthy of attentive examination, even by the government of the country.—The existence of the art and science of architecture is, in brief, the consequence of two of the natural wants, that of providing a habitation, and of delighting the eye by the presence of beautiful forms; and he, the architect, who has made subjects connected therewith his entire study, is the fitting and proper guardian of the interests of those who have not, and the desirable medium between the person having the want, and the individual who supplies it, just as the physician is interposed between the patient and the druggist, who compounds the means of remedy. And to discriminate between the profession of architecture and the trade of building, we conceive to be alike important to the interests of both, though not usually so considered as regards the latter. The builder may otherwise, so readily lie under an accusation of having magnified the amount, or, to increase his profit, of having executed his work in an inferior manner, that it cannot but be his *interest* to relieve himself from such imputations. The vulgar notion, that perishable work is "good for trade," cannot be too soon exploded as fallacious,—whilst it leads to great dishonesty.—The anxiety of the architect to have work well executed, is the very reason, why he is seldom consulted. A speculative builder will always be found to do the work at any price, that may happen to be in hand; and the rashness or inability to estimate, shown in the lists of tenders, which we constantly publish, is the best argument in favour of a change, that we could give. But the existence of an architect to *these* men is fatal. They can no longer make their usual profit, and after defrauding their fellow tradesmen in competitions, and their employers in the work, they generally succeed in defrauding themselves. We have no implicit faith in "proverbs;" but that honesty is the best policy, and that penny wisdom is pounds-folly, we take to be, at least, capable of testimony from builders and householders. The general world, however, will not attend to these points, and draw conclusions from them, as we must; they will continue to send for builders, when they should apply to architects; bad construction will exist in architecture; self-delusion, chicanery, and loss in trade, and large annual expense to every body, until an effort is successfully made, to define the limits of the profession of architecture and the trade of building. What is for the benefit of the one, is certainly for the advantage of the other. The present practices are injurious to those who least deserve to suffer; namely, the builders who are proud of turning out good work, and it is for the interest of this class that an architect should be constantly engaged, and we submit, that the questionable interest of any who deal with less integrity, has no claim to consideration.

But the interest of the public is, indeed, the main argument for a more frequent appeal to the services of architects, and it is our object to urge architects to diffuse extensively the knowledge of the full scope of architecture, and its mode of operation, to make it a matter of popular knowledge, as it is of popular importance and economy. Why an architect should not be consulted in many other matters than those for which he is at present applied to, we are unable to say; for example, in taking a new house, how often might the advice of a competent person prevent the most serious injury to the health of a family, and great expense to the tenant. In nearly all the cases, in which it is now the practice for a householder to send for a builder, we submit that a direct saving of expense would generally follow the employment of an architect. Neither will architecture be valuable as a profession, nor will the profession act as it ought, and might do, for the benefit of the art, until *all* subjects which really are departments of the profession, are referred to the architect, just as now, in the case of each, the services of the medical man and the lawyer are enlisted.

But the more we examine into the causes of general evils, the more we find they become classed under a few heads. Want of information in the public, indifference of architects to the extension of such information, are in one way or other, the causes of every thing, to which we shall have to allude. The iniquitous management in competitions, and its evil results, is but one department of the general loss to the public, through its ignorance of the merits of architecture, though it is one which is so often presented in striking instances, that it cannot remain, as in the case of other matters, unheeded, and had not the general question of fairness in competitions, merged into discussion about the propriety or otherwise, of a few details,—whilst the great grievance remains, and no system could possibly be chosen, worse than the present, which is in fact, none—architects would ere this, have stood in a more favourable position, than that disclosed in a late number. We should regret the rejection of our own views by those who may find it difficult to agree at once with a few details; the great causes of the present unsatisfactory position of the art and the profession, are, as we have said, ignorance in the public, and indifference or want of unanimity in the profession, and no exertions should be diverted from these ends; the general question is too urgent to lose any single effort.

The full definition of the profession and art of architecture, is, we think, worthy of being attentively considered and pointed out. The science, and much of the art, is becoming enveloped in what the world calls "engineering," and the architect is seldom applied to in any thing which is supposed to require scientific construction. They must be up and stirring. During their long sleep, a new class has entered upon the practice of architecture; men not claiming to possess any knowledge of art, who were at one time makers of machinery, and are now called by a new name "civil engineers," have stept in for half their work, because they entered into the spirit of the time, and sought to qualify themselves,—because *they* met, and discussed, and published, and did real benefit to the world, whilst architects did not whisper the word "architecture," and forgot that bridge-building, excavating, embanking, and tunnelling were most important ends of their existence as a profession, and, though the architecture of Vitruvius, including all these, lay open before them, on the table.—We shall have to consider the important particular of education, since that may no doubt be one great cause of the present state, and it may be said, that it is to defects of early professional education or experience, that we owe many of our difficulties, and we may inquire into the propriety of making such an imputation. We do, however, say now, that the deficiencies of architects partly arise out of the want of a full conviction on their parts, of the extensive range of architecture, which would be found to include all that now passes under the name "engineering," and almost every thing that requires the arrangement of materials, and design in form. We long ago urged that, in not seeking the improvement of design in furniture and interior decoration, the architect neglected a most important department of his pursuit, and we have omitted no opportunity of enforcing similar views, though really, they form a very small part of what we contemplate under the general head of "architecture." The education and profession of architects is limited to only a few departments of *architecture*, but were both conducted on sound principles, there is no reason why they should not be made to conduce to the successful exercise of every branch. No good result will follow from an attempt to limit the requirements, necessary for the professional practice. The powers of the human mind are bounded only by the object, and the task, not by inability of comprehension. The study is one of unlimited extent, the profession of very wide range; no course has ever yet been indicated for the first, no good system inculcated in the other: as a profession, architecture has to attain a higher rank, and an increased sphere of benefit. Both require the devotion of the utmost ability, for which the rewards are more mental than pecuniary.

THE SERPENTINE IN HYDE PARK.—"A Subscriber" wishes us to call the attention of the Chief Commissioner of Woods and Forests to the numerous holes which have been formed in the bottom of the Serpentine river, by removing the gravel at various times, and are extremely dangerous to bathers. If these were filled up so as to obtain a uniform depth of water, many accidents would be prevented.

THE BOND QUESTION.

IRON v. WOOD.

THE letter of Dr. Bromet (p. 84, *ante*) having directed attention to an evil to be apprehended from the expansion and contraction of hoop-iron bond,—or, at least, from the disparity in these respects between it and the masonry or brickwork in which it is inclosed, and that gentleman having a doubt as to thick walls affording to the iron protection against the temperature without, the following memorandum will perhaps be deemed relevant to the point at issue, although not hoop-iron, but a bond of a stronger description, is referred to:—

"The consideration of the linear expansion of iron ties is one of great practical interest, seeing the dangerous influence which that property may exercise under particular circumstances; though, fortunately, its amount is not such as to be at all perilous in ordinary cases. The expansion upon the length of malleable iron by 180° increase of temperature is—

According to Smeaton	.....	1-794th
,, Hassler	.....	1-798th
,, Faraday	.....	1-812th
,, Lavoisier and Laplace	..	1-819th
,, Dulong and Petit	....	1-846th
,, Borda	.....	1-865th

The trifling difference here exhibited may be attributed to difference in the density of the material; and if we take the datum afforded by Smeaton's experiments, namely, the greatest, we find that with this increment of heat the gain in length is 1 inch in 66 feet.

During the erection of Girard College, Philadelphia, a few years ago, the architect, Thomas U. Walter, in order to settle some conjectures concerning certain iron bands employed for resisting the lateral pressure of a series of arches, as regarded the effect of their expansion and contraction, instituted experiments as follows:—At a season when the temperature was at 82° of Fahrenheit, a self-registering minimum thermometer was placed on one of the bands, situated in the middle of a wall 5 feet 5 inches thick (which was exposed to the full power of the sun in summer, but was sheltered by a temporary roof in winter); and the opening which had been left for that purpose was then built up. Ten months after, when the temperature was also 82°, the wall being re-opened, the thermometer was found to have descended to 42° during the intermediate winter—the extreme cold of which had been 3° below Zero. Again, during the same winter, but at a time when the temperature was at 24°, a self-registering maximum thermometer was placed on the band in the same wall, on the same level with the other thermometer, but about 60 feet distant from it, and the wall built up compactly, as in the other case: eleven months after, the temperature being also at 24°, the walling was removed, and the thermometer found to have ascended to 61° during the intermediate summer, the extreme heat of which was 94°. Thus it was found that, while the difference between the winter and summer temperatures was so much as 97°, that in the middle of the wall was but 19°, which, according to the datum afforded by Smeaton, gives a linear expansion of 1-7526th, amounting to 1-12th of an inch in 54 feet, the length of the iron bands referred to, and from which has to be deducted the amount of dilatation in the other materials in contact with them."

P.S.—By the way, I do not remember to have seen any reference made to the effect which may be expected to be produced by the action of the solar rays on Mr. Stephenson's great tubular bridge. I am not aware of its proposed geographical bearings; but it appears that 90° difference in temperature would produce about 1 foot of difference in length, and which would be bad enough supposing it alike on both sides, but *worse* if chiefly on one. Some telescopic arrangement over the central pier, I should imagine, would provide for such an exigency. JAMES WYLSON.

DON'T FEAR A WARM BATH.—An impression being prevalent that the warm bath makes those who use it liable to take cold, the committee for promoting the establishment of baths and wash-houses have published a certificate to the contrary, signed by 144 eminent physicians and surgeons.

THE BUILDINGS BILL AND THE MASTER CARPENTERS.

A THIRD meeting of the committee on the above bill was very fully attended at the Freemasons' Tavern on the 24th ult.—Mr. Biers in the chair—when the committee went through the present bill from the 40th section to the 73rd. The chairman read several communications from parties who considered themselves aggrieved under the provisions of the present bill, and particularly the following letter from Mr. J. T. Merrick:—

"Sir,—I beg to call your attention, as chairman of the Committee of the Master Carpenters' Society on the Metropolitan Buildings Bill, to that clause of the Act restricting the size of factories.

Having occasion to erect a manufactory for paper-hangings, which require a building of certain dimensions, I contracted with her Majesty's Commissioners of Woods and Forests for the largest plot of ground in New Oxford-street, and I have erected thereon a manufactory, under the superintendence of my own surveyor and the surveyor to her Majesty's commissioners.

I gave instructions to my surveyor to draw his plans for a building suitable for my tables and machinery, and at the same time to study the health and comfort of a large body of workmen, by having well-ventilated and lofty workshops; by so doing the cubical contents exceeded the limits required by the Act. I proceeded with my building under the impression that the official referees would modify the Act, as they have power to do, and allow of the improvement I had made. Such, however, has not been the case; and I have the satisfaction of knowing that had I made the stories of my building 2 feet less in height, it would have been built according to the Act of Parliament, and approved: in other words, had I erected low and confined workshops, which would have been inconvenient for the purpose I was erecting the building, as I require light and air for the manufacture of paper-hangings, and endangered the health of the workpeople, the building would have been perfectly in accordance with the Act of Parliament, whereas now it is condemned as a nuisance. The total height is even now less than the limits prescribed, but the superficial area, which is regulated by my tables and machinery, makes the cubical contents rather more than the 200,000 feet.

I may add, that my building has been surveyed and approved by the surveyor of her Majesty's Woods and Forests; it has also been surveyed and approved by the surveyor to three of the principal insurance offices in London, and is ensured even at a less rate than many workshops in the trade.

I trust that the Committee of the Master Carpenters' Society will endeavour to obtain an amendment for so arbitary and unnecessary an enactment, and one so prejudicial to the manufacturing interest of London. I shall be happy to shew you, or the committee, my premises at any time you may appoint."

A hope was expressed that parties who have really felt an annoyance, or what might, by any reasonable person, be deemed an unnecessary restriction, would forward to this committee such statements as might lead to a consideration of any point that may require amendment.*

Adjourned to Wednesday, the 10th inst.

DEPÔT FOR INVENTIONS CONNECTED WITH BUILDING.—"A Subscriber" says, "I have reason to believe it would prove very advantageous, not only to professional men, but also to the inventors and builders, if there was some central exhibition-room for the deposit of all intventions, and every thing connected with architecture and building, that parties could go in and inspect, with the several prices and prospectuses attached to them, rather than have to walk all over London to see what might be found useful or ornamental in a building. Could not a portion of such an edifice as they are now erecting for the Economic and Geological Institution be combined with it, and which will contain so much that is practically useful?"

* On the 1st inst. Mr. M. Forster asked in the House of Commons if it was the intention of the Government to bring in a bill to amend the Buildings Act introduced last session?—Lord Morpeth said, the amendments in the Metropolitan Buildings Act had been for some time under revision, and he was in hopes of being soon able to bring in a bill on the subject.

WHAT IS DOING IN LONDON, AND WHAT OUGHT TO BE DONE

SIR,—As you kindly inserted my letter on the importance of a general scheme for the entire renovation of the whole of the metropolis, I take the liberty of again addressing you on the same subject; for really, the more I hear and see of the miscalled improvements that are, and have been, going on in London, and more particularly in the city, the more I become convinced that a different system must be adopted, or (to quote from Mr. Seeley's speech at the late meeting in Farringdon Without) "In ten years London will become like what Bartholomew fair used to be; nobody will go into it that can keep out, and when once in, a man's first effort will be to get out." In proof of this I will just mention some of the streets in the city, the widening of which the corporation have commenced. They are as follows:—Threadneedle-street, Gresham-street, Thames-street, Watling-street, Newgate-street, Butcher-hall-lane, Angel-street, the bottom of Holborn-hill, Fetter-lane, and Chancery-lane. Now, I do not object to any of these on the ground of utility, but simply on account of the great length of time they have all been in hand; and if they are left for the corporation to complete, about the middle of next century will be a moderate calculation of the time when they will all be finished. With the funds at their disposal, one would suppose that it would be the endeavour of the city corporation to carry out speedily what they have commenced, instead of which they are about to attempt two more "crooked lanes," viz., one from the west end of Cannon-street to Queen-street, or rather (which is the real object of the line), to Southwark-bridge, and another (for which an Act was obtained last session) from Tudor-street to Temple-street, across the end of Dorset-street, and which, by the bye, seems to make very little progress, like the rest.

In order that the public should have the benefit of improvements, some of which I grant are good in themselves, they should be carried out in a liberal and spirited manner; and the latter condition, at least, is at present an impossibility within the narrow boundaries of this narrow-minded city. I do not mean to say that outside the city these things are unexceptionally managed, but they are certainly better contrived, and when once commenced they are carried out within a reasonable time. New Oxford-street, for instance, which is one of the best lines of streets that has been formed in the metropolis, is decidedly too narrow; and an opportunity has also been lost for widening the narrow thoroughfare which runs by St. Giles's Church. Endell-street, too, is so much after the style of the city streets, that one would almost suppose it had been formed by the corporation. But the tardiness with which this street has been carried out is accounted for in some measure by the fact, that the greater portion of the property through which it runs belongs to the Mercers' Company. Of the improvements (I make use of this term, because it is generally understood to mean new streets, although it is in many cases a misnomer) now going forward in Westminster and Whitechapel, not having been in either neighbourhoods very recently I cannot say much; but that I have not formed a very high opinion of the former scheme, and that the latter is not progressing quite so fast as might be wished. However, the faults in these only shew more clearly the necessity of one efficient directing body, with ample funds at their disposal, and with one definite object in view, viz., the improvement of the whole of London in the best and quickest manner, so that those who pay for the improvements might have the benefit of them.

With regard to the necessary funds, I will again quote from Mr. Seeley's excellent speech at the meeting in Farringdon-without; he says:—"The sum of 20,000*l.* mortgaged by the corporation would not amount to 1,000,000*l* in fifty years. If there was no other way of raising the amount necessary for improvements, he would rather bear a little taxation than allow things to remain as they were." * * * "He would have a large sum to meet a great and comprehensive scheme of improvement, and instead of mortgaging the 20,000*l.* a year which the corporation proposed to sacrifice for this plant, he would retain that sum for the purpose of effecting small alterations year by year, such as the widening and improvement of streets, courts, and lanes, and other useful and beneficial objects which were constantly requiring attention."

I regret to say that the corporation have applied to Parliament for an Act to carry out their narrow-minded purposes, and that their bill is amongst the list of unopposed bills, so that although their plan when first propounded was so generally condemned, I believe it is not likely to meet with the least opposition in the House, and I am not aware that a single petition has been presented against it. I hope it is not now too late for this. In order to relieve the principal thoroughfares between the City and West-end, I consider that two lines of street are wanted, viz., one from London-bridge to Saint Paul's Church-yard, and the other, already urged in THE BUILDER, from the end of Cheapside to the end of Long-acre; the first would relieve Cheapside, and the second Fleet-street and the Strand. In addition to these, the Poultry should be widened, a viaduct formed from Holborn-hill to Snow-hill, Middle-row pulled down, Fleet-street widened from St. Dunstan's Church to Chancery-lane, and the Strand widened at the back or rather side of St. Mary's Church, somewhat in the same manner as round St. Clement's Church.

It has been often suggested that Temple-bar should be pulled down, but I do not think any good would be attained by that measure, as it would give very little more roadway, and it would be needlessly destroying a remnant of antiquity, whereas if it remains, it might be made of great use to foot passengers (particularly to the ladies) as a means of crossing Fleet-street, if a staircase were formed on each side of the street, for which purpose it would only be necessary to pull down the adjoining houses on each side.

When once the improvement of the whole of London is in the hands of one body, I think they may effect a great deal of good by altering the names of some of the streets, the great number of which of the same name causes endless confusion; for instance, King William-street in the City, and King William-street in the Strand, often get confounded, and the same with Russell-street, Covent Garden, and Russell-street, Bloomsbury; Wellington-street, Strand, and Wellington-street, Borough. Perhaps some of your readers may not be aware that there are upwards of seventy John-streets in London, forty-seven James-streets, fifty-two King-streets, forty-four New-streets, forty-six Queen-streets, thirty York-streets, fifteen Wellington-streets, twelve Grove-streets, and the like number of many others. These numbers I should say, are not taken from a very recent list, so that they are by this time considerably increased. A general alteration might certainly cause a little temporary inconvenience, but by writing up the old and the new name at first, that would be soon got over, and the great advantage of having only one street of the same name would soon be apparent to every body.

Another project which I think ought to be carried out either by or under the control of the proposed improvement commission (or by whatever other cognomen they may be distinguished), is the formation of a line of railway which should completely encircle London (crossing the Thames twice), so as to connect all the railways which diverge from London. This grand connecting line should be formed at whatever distance from the centre of the metropolis is thought expedient (by the commission), say seven, eight, or ten miles. This plan, if acted upon, would do away with the necessity for any of the great variety of zig-zag lines which are continually being proposed (and in some cases carried out) to meet a crying evil.

The proposed railway street through Westminster furnishes a very good idea, which might be very well acted upon in the present case. In this scheme it is proposed to form an open cutting, with four lines of wooden rails, and a double set of rails to each line, one of the broad and the other of the narrow gauge, the whole to be worked on the atmospheric principle, and the banks to be planted with trees, and bridges to be built at the intersections of the roads. By these means an almost noiseless railway would be obtained,

and it would not present an eyesore, as most lines at present do.

As I said before, the removal of Smithfield market to Islington, and the formation of a central terminus for the Great Western, Birmingham, London and York, and Eastern Counties railways on its site, should form a leading feature in the scheme, as also the abolition of the tolls on all the bridges, and the completion of the Thames Tunnel (which is at present like the Soane Museum, a "mere useless toy"), and which should be also thrown open to the public without toll, as it is always found that tolls are avoided if possible. There are many other minor points which I should like to allude to, but as I have already extended this to greater length than I intended, I will conclude, hoping that some of your able correspondents will take up this important subject, to which I have not been able to do justice; and that you will also assist the good cause by a few more of your powerful leading articles, and thus awaken your brethren of the press and the public generally, to a sense of the absolute necessity for some change in the present mode of managing these affairs.

Feb., 1847. A Londoner.

STEAM POWER WITHOUT FUEL.

A paragraph in a recent number of The Builder, on the alleged production of glowing red heat by friction of metallic plates, prepared as a machine for the purpose, has excited some interest. That a glowing red heat may be obtained by adequate friction of iron or copper plates properly adjusted, there cannot be the slightest doubt; and as in almost every really great and valuable practical discovery or invention, so in this, the wonder seems to be that machinery has never hitherto been expressly applied to an end not only practical and useful, but already frequently realized, by design as well as by accident, such as this has been.

If the savage Indian can cause a piece of dry cold wood to burst into flames by means of rapid friction alone; if the more civilized son of Vulcan can, with the power of his sturdy arm, and the weight of his rapid hammer, beat a piece of still colder iron into a glowing red hot taper, wherewithal to ignite his smithy furnace; if an iron axle will become red hot, and even be capable of setting fire to a carriage, by means of rapid friction; why should not the obvious possibility of thus evolving heat *ad libitum* by friction, and without fuel, be designedly and extensively applied, through proper machinery, to profitable purposes?

Might not the boilers of steam-engines, for instance, thus be heated, and the steam power generated, by means of *friction-engines and machinery worked by the power of the very steam thus generated*, and a perpetual circle of action thus be engendered, which would realize a much more intelligible and more practically useful form of perpetual motion than has ever hitherto appeared within the bounds of possibility, or at least of practical utility?

Let such an engine be once put in action till a glowing heat be accumulated, and, so long as a supply of water to the boiler is kept up, we do not see why the generation of the steam,—the motion of the friction-engine and machinery,—the friction itself,—and the accumulation of the glowing heat to sustain the steam and the power and the motion,—might not easily go on, and on, so long as the friction-plates and other mechanism are kept in working trim; and the only question then remaining for consideration is the adequacy of the power, thus once generated, to *do more* than merely sustain the friction requisite to keep up the necessary heat. At all events, for the mere domestic purposes of a kitchen or other range of grates, or rather of red-hot friction-plates, a miniature-engine, worked by steam from a copper, heated by the red-hot friction plates themselves, would, it may be thought, supply enough of surplus friction-heat for all the boiling, frying, broiling, and roasting, requisite in even the most extensive cooking establishment in existence; and that, too, without the disagreeable and damaging adjuncts of dust, smoke, sulphur, &c.; no less than without the perpetual expense and trouble and interruption attendant on the alternate supply and waste of fuel.

That friction-machinery on the great scale, however, as a complete substitute for fuel, might be adapted to all manner of steam-engines, whether locomotive or fixed, but with peculiar advantage to locomotive engines, including those of ocean and other steamers, seems possible; and what a vast new field for enterprize and profit, even in the midst of immense reductions of prices, right and left, would thus be opened up; independently altogether of the more immediate advantages attendant on so total a riddance of the clumsy and cumbrous accompaniments of coals and wood! No hindrance, *then*, to the growth of mills, machinery, manufactures, where neither coal-fields, forest-timber, peat-bog, nor water-power exist! No dragging of heavy coal cargoes or tenders along with trains or steamers—no waste of stowage—no drawbacks on extensive trading voyages, or even on voyages of discovery round the globe, or to the poles themselves, by steam! The idea is surely worth serious attention.

Then, too, most truly might steam be said to be *weaned from its infant provender, fuel;* and able, at length, to *walk, or rather to fly, alone;* untramelled and free as the wind! And, in a more and more emphatically "iron age," we might be contented to derive both heat and comfort from that stern "cold iron," whose dread mission heretofore was much rather to deal forth the chilliness of death than to minister so immediately to the warmth of life.

ON THE EMPLOYMENT AND REMUNERATION OF CLERKS OF WORKS.

In the employing and remunerating of clerks of works a fearful responsibility rests upon the employer.

In seeking to inculcate this truth, I address myself both to the employers and the employed, for if a responsibility rests upon the employer, it argues some importance in the employed, to establish which this paper is written; and if it should be the means of rescuing a clever and deserving, though under the present system oftentimes a besotted and dishonest, class of men from temptation and moral degradation, it will have answered the end desired.

In order to establish the responsibility of the architect in connection with the clerk of works, it will be necessary to enumerate the qualifications, duties, and responsibilities of the latter, for he has responsibilities as onerous as the former, and this it is which creates responsibility in the employer.

Qualifications.—A clerk of works is an artizan, a man of experience, a link connecting the operative with the architect; and as the term architecture is commonly understood, he is a kind of *between*, uniting the architecture of the one and practice of the other,—weighing with experience everything necessary, not only in the construction, but also in the arrangement of edifices. He must be a good accountant, because he has the management of the accounts, and oftentimes the buying of the materials. A measurer, for generally he has the measuring of the works at the conclusion, checking the accounts, and paying the smaller bills.

Duties.—His primary duty is the superintendence of the works, to see the drawings are fully carried out in all their dimensions, construction, and details,—that the specification is fully obeyed in all particulars, to prevent the admission of unsound, defective, or improper materials,—that things are of their proper sizes, weights, and qualities. For all these purposes it is absolutely necessary that he should be the first man on the works in the morning, and the last man off at night, and not to leave the building when in his judgment injustice may be done to his employer in his absence.

It is his duty, also, in case of his discovery of any defective construction, to report the same to his employer; for however carefully a set of drawings may be studied, there are generally some points arising in the course of execution that seem not to have been studied at all; in such cases, an instant report to his employer is required.

In measuring up, it is his duty to be strictly honest to his employer, however much his feelings may be in favour of the builder; and in paying bills, the pernicious practice of deducting commission should be especially avoided by the honest clerk of works. To sum up, his duty is honesty, integrity, and uprightness, both to his employer and the tradesman, favouring neither one nor the other; and as such he is in a place of great trust.

Responsibilities.—From the foregoing digest of his duties, it will be seen that the responsibilities of the clerk of works are of no ordinary character. His duty to himself, his employers, and, above all, to his Maker, renders it imperative upon him to be honest, to resist the temptations sometimes held out by the builder or his agents, to maintain his independence of mind, to be strictly just, and fear no man.

What is too often the position of the clerk of works now? I am sorry to say that too often the clerk of works is a debased and drunken mechanic, truckling to the builder, shutting his eyes for a consideration to all the dishonesty and injustice practised towards his employer, in allowing unsound and improper materials to be used, and weights, measures, and qualities under the specified value, and in many things in a clerk of works' responsible care, selling himself to a dishonest and cupidical builder.

What is the effect? His self-esteem is degraded, his vices are encouraged, his character destroyed. How can it be expected of such a man that he will perform his duty. Bear all this in mind, ye architects and employers, while I tell you the cause of it, and that you are responsible for that man's state.

I have shewn the responsibility of the clerk of works, his temptation, and too often dangerous fall from duty; and I will now prove that architects and employers are the causes of their clerk of works' dereliction of duty.

Architects have yet to learn the fact, that in all situations of trust, the holder should be well and handsomely salaried. Ask the bankers, merchants, railway contractors, and even builders: they will all answer, that where they place confidence and trust they give an adequate salary; it is not only necessary, but it is imperative. Look at your clerks of works, holding situations of great trust, temptation, and responsibility, what do you give them? Not sufficient to keep themselves and families in respectability, much less from peccability.

Some architects (standing high in the profession too) grind their clerk of works' salary down to the wages of a building mechanic; I have shewn the result in the degradation and abasement of the clerk of works, and I think it requires very little foresight to see that in the end nothing is saved, but a vast deal is lost, not only in the moral but in the monetary point of view. And now let me ask why should such a state of things exist? I call upon architects to do their duty to their clerks of works, to improve their moral condition, but first to improve their salaries; and the natural consequence will be that they will be above want, and consequently more above temptation. The fact is, that architects treat them as common mechanics, pay them as common mechanics, and expect them to be immaculate and honest all the while. Where want oppresses, and temptation offers, it is not in the power of poor human nature to resist. J. L. C.

Carving by Machinery.—At a meeting of the Society of Arts, on 24th ultimo, Mr. Jordan read a paper "On the New Carving Machinery," erected for the Houses of Parliament, and also employed at the works of Messrs. Taylor, Williams, and Jordan, Belvidere-road, as described by us some time ago, when it was first brought into operation. The author explained to the meeting the mechanism which forms the two floating tables, and which by a universal motion allows the vertical tracer and cutter to perform their work. A perfect pattern of the work to be carved is first modelled by the artist, and afterwards copied by the machine in wood with perfect accuracy, and in such a manner that two or three copies are made simultaneously. The carving thus prepared by the machine is then sent back to the artist, who introduces by hand the finishing touches, and thus the works have the merits of artistic productions at comparatively small cost. The decorations of the House of Lords are the most extensive works yet done by this machine; but groups of flowers and ribbon work, and sculpturing in the round, were exhibited, and covered the walls of the room.

THE ACOUSTIC CURVE: AND THE RISE OF THE RIVER.

Sir,—Will you allow a non-professional old man, albeit a little acquainted with the subject in former days, to dare set younger and professional men right.

Mr. Russell, at the Institute of Architects, explained a curve which he had *discovered* for the sectional arrangement of seats. Upon searching, he will find that Mr. Brooks arranged the seats of the theatre of the London Institution some thirty years since, upon such, or at least a similar system; and if my jaded memory be not treacherous, Mr. Tite set out the gallery seats of the Scotch church in Sidmouth-street, upon a like principle; and even I, in a fit of amusement, made the *discovery* of the concave line, agreeably to which they ought to be set out.

Is Mr. Russell aware that the Indian wisemen hold, that there is some other medium than air by which the impulses of sound are transmitted? Some yet undiscovered agent, which allows us to hear a shrill bell through a massive wall,—a vast body which if set in motion by the bell at all, would doubtless produce a grave rather than a sharp sound.

Again, Mr. Higgs thinks that he is the first man who has *discovered* that the surface of the water of the Thames, together with its bed, has risen. Some forty years since I read, and I am not quite sure but it was in "Gwynn's Suggestions for the Improvement of London," a similar remark, and among the proofs adduced were the level of Westminster Hall, and the floors of the lime kilns at Nine Elms, at which place the larger portion of the lime was burnt for the rebuilding of London in 1666; those floors having been above the rise of the tide when constructed, but full 4 feet below when that work was published.

I recollect hearing Mr. Brunel say, that the deposit of the river is so thick, that they found one of their shovels had, by its own gravity, penetrated several feet (I am afraid to say twenty-five) below the present surface of the bed, and that they recovered it in their tunnelling. I had given to me an iron ball with a spike through it, which had been brought out from that tunnelling, and been met with at forty feet below the land-surface.

At the foot of the Southwark-bridge, in Upper Thames-street, I saw the remains of an old building with a window opening, of which the splayed jambs and the interior of the walls were plastered with red tile mortar, and which had apparently been fitted for residence, into which the tide then rose six feet, although it is fair to assume that when first constructed it was high and dry.

It has often occurred to me, that the river walls had no original constructor—that is, they were not part of one grand, comprehensive undertaking, under some master mind,—but simply the off-hand expedients of persons under present exigency; but the former president of the Institution of Civil Engineers has said they were Roman works.

Not only has the river risen, but the land has risen, and will continue to rise; and builders ought always to bear in mind the trite maxim of ignorant impudence, "*always take high ground*," and follow it out, in a much better spirit, by taking care to go up one step too many, rather than form one too few,

I am, Sir, &c., Brickbat.

Stoke Newington Institute Competition.—In reply to an advertisement which appeared in our pages, eighteen designs were forwarded to the committee. The committee, having classified them according to their respective merits, invited several gentlemen resident in the neighbourhood to a conference, with the view of making a selection of those best adapted to the object contemplated; three were selected, and ultimately a design by Mr. Francis Cross, architect, of Newington, was chosen. It is a plain but suitable building, with a Grecian Doric hexastyle porch, and includes a lecture-room, 60 feet by 35 feet; reading-room, 28 feet by 22 feet; library, 22 feet by 22 feet, and six other rooms. The estimated cost of the erection and furnishing is 1,500*l.*; but this sum, we fancy, will not be found sufficient. We did not see the designs which were submitted, and therefore can say nothing as to the justice of the selection.

THE GAS MOVEMENT.

The agitation spreads as it flows, increases as it rolls, and, like the swollen flood or the avalanche, will ere long carry all before it. New towns are ever being smitten with the contagion, leavened with the ferment, that has hitherto been working out a healthy alteration and reduction of the whole system to a normal and consistent state. We hope, says the *Leicester Journal*, transcribing one of our articles on the subject, that the natives of Leicester will be no less enlightened than those of Liverpool have lately been by the evidence adduced. "This is no rash speculation," says the *Preston Guardian*, quoting that very evidence. "The proprietors of the Guardian Gas Company (who it will be remembered offer gas at 3*s.* 8*d.* per 1,000 cubic feet, with a profit to themselves of 7½ per cent.), are men of wealth and respectability, and their engineer (Mr. Cox, a practical gas manufacturer, who supplied gas 'at 1*s.* 8*d.* per 1,000 feet, and did not lose by it'—nay who in the profitable manufacture of coke produced it at 'less than nothing,') bears a high reputation." The Guardian therefore calls upon the people of Preston and other Lancashire towns, to bestir themselves in order to obtain gas for at least 4*s.* 8*d.* per 1,000 feet, as a set-off to 3*s.* 8*d.* in the more extensively consuming, and hence it may be more cheaply provided, districts of Liverpool. The Preston Company, however, have the self-preservative cunning not to impose the "injustice and extortion of which we now complain" upon the few large consumers there, who would otherwise effectually dispose of the usual "exorbitant charges" by making their own gas.——In Manchester, where the profits derivable from the sale of gas are expended for behoof of the inhabitants themselves in extensive and noble improvements, a pretty smart price is quite justifiable; but even there the price is far more moderate than where the pockets of a few monopolists alone are filled at the expense of a whole community. Under 200,000 cubic feet per year, the charge at Manchester is 6*s.* per 1,000; above 200,000 and under 400,000 feet per year it is 5*s.* 9*d.* per 1,000; and where the quantity used is 800,000 feet or upwards per year, the price is 5*s.*——The inquiries at Southampton have been further carried out by the examination of engineers and practical gas manufacturers and others. From the evidence, it appears that a suggestion of ours for the obviation of the nuisance of disturbing the carriage ways of roads is intended to be carried out by the new company, namely, to lay the pipes generally under or along the side or footways, wherever that is practicable. Mr. Croll, who has a patent for the use of chloride of manganese in the purification of gas, made some observations, in his evidence, on the metropolitan gas to the following effect:—Gas is becoming very generally used in private houses at the West-end; and within the last six months it has been introduced into several large houses at Tottenham. Several gentlemen have had it introduced into the drawing-room, bed-rooms, &c., of their establishments, and in the neighbourhood of Finsbury-square it has recently been introduced into many large mansions. Since the reduction of price from 9*s.* to 7*s.*, within the last few years, the rentals of the several works have not diminished, and the use of gas has increased in consequence of the reduction of prices. From 20 to 30 per cent. of the houses at the West-end have had gas introduced into them; and in Finsbury-square twelve houses out of thirty-seven have it introduced into the sitting-rooms. There are a large number of detached houses about a mile from Coventry, in which gas is generally used in all the rooms, and it is frequently used for culinary purposes. Mr. Johnston, whose patent for the purification of gas by the dry way with sulphate of iron we sometime since noticed, was also examined, and in course of his evidence he stated that the residual products of his process, namely, sulphate of ammonia, cyanide of iron, sulphuret of iron, and some oxide of iron, are so valuable, that he has offered to the companies adopting his plan to grant them a free license, and to supply all the purifying materials, on condition of having the residual products.——The usual Government inquiries have been gone into at Dublin relative to the merits of the proposed Consumers' Gas Company there. The opposition by the Hibernian Gas Company was grounded, of course, on the assumption that the proposed bill is unnecessary and uncalled for.

FOREIGN ARCHITECTURAL AND COLLATERAL INTELLIGENCE.

Rewards bestowed on Professional Men in Prussia.—At the late Orders festival (*Ordens Fest*) in Berlin, H. M. conferred on Mr. A. Humboldt the knighthood of the order of the Black Eagle,—a distinction never bestowed on science before. Mr. *Schmidt*, superior building director at Berlin, obtained the second class of the Red Eagle, with the oak wreath. The knighthood of the same order was conferred on Professor *Bekker*; *Buchhorn*, professor of R. A. of Arts at Berlin; *Ellerts*, superior mining councillor; *Klöden*, director of the Municipal Industrial School at Berlin; *Auer*, superior inspector of Rhine navigation, Mayence; *Veit*, historical painter at Frankfort. The fourth class of R.E. received Mr. *Schadow*, jun., building court councillor at Berlin; *Wolff*, professor of Industrial Institute at Berlin. Besides these, Sir David Brewster, and Professors Le Verrier, Frähn, Mädler, &c., obtained divers honourable distinctions.

Athletizing of the People in Germany.—Besides numerous works lately published on physical invigoration (education!)—an especial fortnightly journal has just made its appearance, the *Turn-Zeitung*, or gymnastic journal, published by Prof. Schuch, at Bruchsal. To all such *demolishers* of hospitals, infirmaries, dispensaries, &c., we give a hearty welcome.

St. Mark, at Venice.—It is one of the anomalies of our times, that this venerable pile, one of the chief representatives of Occidental and Oriental art, should have been hitherto without illustrations equal to its importance. Mr. and Mrs. *Kreutz* of Vienna, both artists of note, are engaged in accomplishing this desideratum. Twenty-one plates of elephant folio size will comprehend the whole riches, architectural and ornamental, of that cathedral. Amongst the mosaics, the splendid picture of the Virgin in the Grave, which is to be found in the atrium, at the left-hand side of the entrance, claims particular notice, although it is yet doubtful whether it belongs to Titian, Pordenone, or Salviati. H. M. the *Emperor* of Austria has ordered from the artists a coloured copy of all the plates made after the originals. Mr. K. is very accessible to strangers visiting Venice. As Mr. K. has studied St. Mark in all its details, an historical and art-essay written by himself will add to the value of this work.

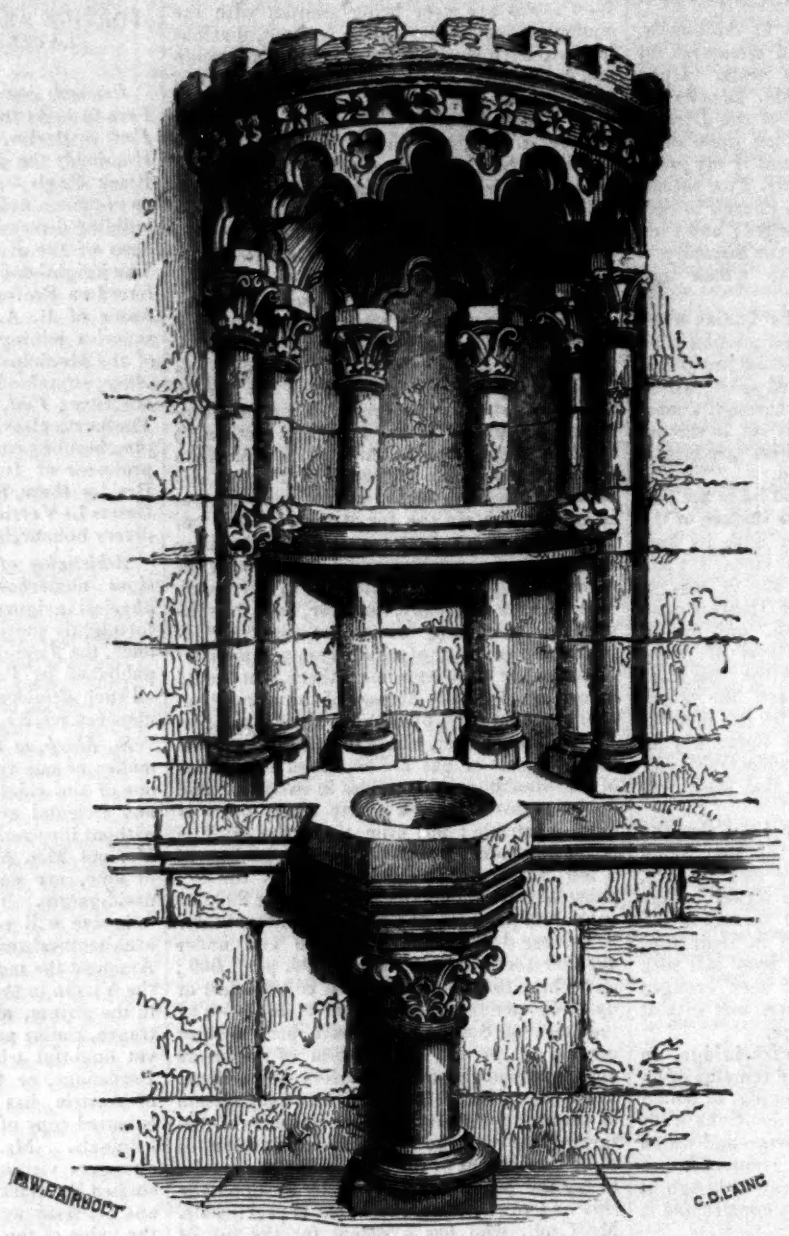
H. M. the King of Bavaria—has appointed to the two vacant professorships at the R. A. of Munich, Mr. Charles *Schorn* (known by his great picture—the Anabaptists), and Mr. Maurice Schwind, of Frankfort. It has excited general applause, that these two promising artists (one a foreigner) have been gained for the Munich art-world.

Art—a Moral Preceptor.—We are sorry to perceive that our French neighbours have taken from us the subject of a fine work on this topic, just published by Mr. Louis Desnoches, under the title "*La Peinture Précepteur Moral.*" Speaking of Greuse, the most magnificent *historical* painter of domestic virtue, our author says, "If ever the works of a moralist, poet, or painter have exceeded his renown and reward, it is the case with Mr. Greuse. Deep reprover in 'the Father's Malediction,' faithful historian in the picture of the Prodigal Son, he becomes an idyllic poet in the *Accordée de village.*"

Giessen.—These head-quarters of Liebig—and therefore of German chemistry—will be placed in immediate communication with all parts of Germany, by means of a huge railway terminus to be erected there. The distance from London to Giessen is—5*l.*

However incredible it may appear—the Catholic clergy of Rome have taken up the cause of railroads, and a religious periodical of that city has, of late, devoted four columns to the topic—"Quanto alla Morale ed alla Religione giovi il vapore applicato alle strade ferrate e alle navi." Another Roman periodical also, the giant *Contemporaneo* (measuring 3½ Italian palms in length), takes up railways as one of the most important *material* questions of the present epoch.

PISCINA, NOTRE DAME DE SEMUR.



PISCINA, NOTRE DAME DE SEMUR.

The church of Notre Dame at Semur, was principally constructed in the 13th century, and is remarkably rich in its sculptured decoration, so that it forms a fine study for architectural enrichments of that century, and the two following, during which period it was erected.

The piscina here engraved, and which we copy from a plate in M. Didron's *Annales Archéologiques*, is stated there to be a work of the thirteenth century, and is in one of the chapels of the apse of that church. It has unfortunately not escaped injury, as it has been concealed by wooden panelling, which has partially damaged it in front. The semi-circular shelf or credence-table, half way beneath the canopy, is a curious feature in this design, it is made to project considerably, and is furnished with a ridge to prevent any thing from slipping that is placed on it. It was intended to receive the small vessels termed *burettes*, and made to contain the wine used in the service of the mass, or the water used in washing the sacred utensils. The drain empties itself on the external wall of the church from a gargoyle, shaped like the head of an animal similar to those which surround the choir of the Cathedral of Notre Dame at Paris.

Tavistock Church.—Mr. Robjohns, of that town, is about to publish three views of the interior of Tavistoc Church, recently restored.

BRITISH ARCHÆOLOGICAL ASSOCIATION.

On the 26th of last month, the association met at their rooms in Sackville-street, Mr. Pettigrew, V.P., in the chair, and numerous matters of considerable interest were brought before them. Papers flow in, it seems, from all quarters, their provincial members being very active. Amongst the objects of interest exhibited, were two curious gold ornaments from Peru, which had been saved by Mr. W. D. Haggard from the melting pot at the Bank. They each exhibited a rude human figure worked in wire, as some thought, and soldered on to a flat piece of gold; others were of opinion that they were cast entire, and a long and not uninteresting discussion was the consequence, in which Mr. Wright, the Rev. Mr. Nicholay, Mr. White, Mr. Solly, Mr. Newton, and others took part.

Mr. C. Baily read a paper, by Mr. Laing, on the tower of Trinity Church, at Colchester, which has lately, at the suggestion of the association, been stripped of a coating of plaster and whitewash, by the Rev. Mr. Owen, in order to develop its original architectural features, which prove to be Saxon, at all events in part. The foundations the rector considered pure Roman. The door-way has a triangular head, formed of brick or tile. Mr. Vint, of Colchester, communicated an account of the discovery, in his grounds at St. Mary's-lodge, of an extensive Roman burial place. Mr. Roach Smith read a paper by Mr. Lukis, of Guernsey, on the primeval remains recently discovered by him in the Isle of Alderney, which drew forth remarks from Professor Worsaae, of Copenhagen. Some discussion on Saxon architecture ensued, and the importance of obtaining precise means of distinguishing such was urged. Mr. Wright, in connection with the subject said, Saxon MSS. shewed squares in plaster of different colours, and even castles were spoken of as being *painted* of various colours. The meeting passed off with much spirit and general advantage.

The new number of the Journal of the association contains, amongst other interesting papers, an extended account of the proceedings of the council, a report on an archæological visit to Colchester, and an abstract of the proceedings at Gloucester. At one of the meetings of council Mr. Baily submitted a drawing of a

NORMAN DOOR AT HANSLOPE CHURCH, BUCKS,

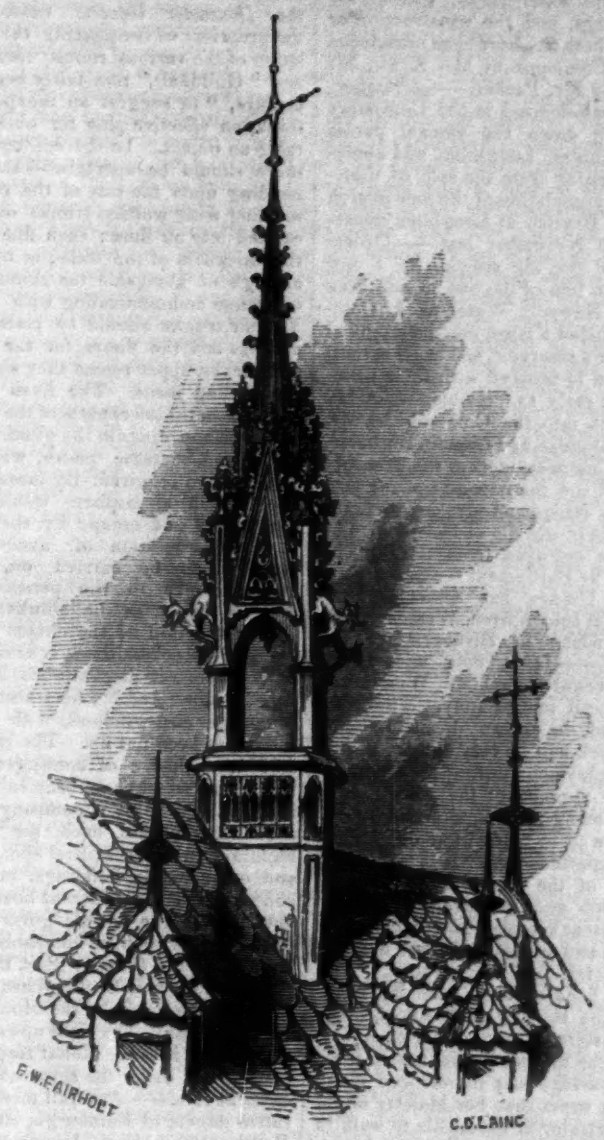
afterwards engraved for the Journal, and as this presents peculiarities, we avail ourselves of the kindness of the council, and transfer it to our pages with Mr. Baily's own remarks upon it.

"The priest's door on the south side of the chancel of Hanslope Church, Bucks, although small, is at the same time a fine specimen of Anglo-Norman architecture, and possesses some features which do not appear to be very common. Amongst these, the overlapping the head of the inner jamb moulding by the series of small-pointed arches is very peculiar, as well as the conical-billeted moulding directly

under the dripstone. These features are met with in some doorways in Norfolk and Yorkshire, which have been published in Cotman's *Etchings*. The south doorway of Thwayt Church, and the south doorway of Framlingham Earl Church, also the south doorway of Mundham Church, all in Norfolk, possess moulded arches, in which appear ornaments with teeth-like points overlapping a large bead, somewhat in the manner as the pointed arches do at Hanslope, but in nothing like so beautiful a manner; and in the arch of the north doorway of Hales Church, Norfolk, appears the double cone ornament, separated by small round patras, as if intended to represent conical and flat beads threaded on a string. The doorway of Heckingham Church, also in Norfolk, has the same feature in the arch, but here the cones are separated by two, and in some cases by three flat beads, instead of one, as at the doorway at Hales Church.

The west door of Barton St. Mary's Church, Norfolk, has both the features which I have noticed at Hanslope Church; the inner shaft with the arch above it is beaded with double cones, and the outer jambs have the large teeth-like portions overlapping the round shafts of the columns from the square jambs. In the same doorway, in the outside arch and above the jambs last mentioned, is the beak-head ornament so common in Norman doors. It may not be impossible that this kind of ornament, and represented by small pointed arches at Hanslope Church, and by blunt teeth in the doorways at Norfolk, and in each case overlapping either a column or a large bead, might have been the origin of the Norman beak-head ornament, more especially as in all the cases above quoted, where it appears, nothing whatever exists of a transition character, but all is in an unaltered Norman architecture, with the exception of the doorway at Barton St. Mary's Church; in which case the style of architecture is most decidedly late Norman, and upon a quick change towards the early English style, for one of the arch mouldings is ornamented with the four-leaved flower so common in early English work, and the same arch also contains the beak-head ornament. The walls of the chancel, with the corbel tables of the same, the doorway which has just been noticed at Hanslope, and the chancel arch, are the only parts of the Norman church which now remain, the present church having been rebuilt in the fifteenth century. It is a good specimen of perpendicular architecture, and has a lofty tower, surmounted by a crocketed spire, at the west end. The Norman doorway is probably as old as the time of King Henry I."

LOUVRE AT COLOGNE.



NORMAN DOOR, HANSLOPE CHURCH, BUCKS.

THE municipal buildings at Cologne are characterized by the same love of display that was indulged in by other opulent cities in the middle ages, when wealth was derived from the successful commerce in which its principal inhabitants were engaged. The town-hall is in the style of the *renaissance*, when the classic models of Greece and Rome began to be engrafted on the Gothic. The portal is of marble, the *façade* exhibiting a double arcade of Corinthian and composite pillars, the roof and dormer windows preserving the features of the Gothic taste. Exactly opposite the town-hall stands the building whose roof forms the subject of our cut. The elevated louvre is remarkable for the elegance of its lead-work, and the beauty of its proportions. It presents the peculiar features exhibited in the details of Gothic ornament in the low countries; the finials and crockets are much outspread, and the foliation is elaborate. The scale-shaped tiles and ornamental cross on the edge of the roof, as well as the pinnacles over the windows, add considerably to the picturesque effect of the roof, and prevent the harsh irregularity of outline observable in modern buildings, and which was obviated at the period when the one we are now speaking of was constructed by ornamental tracery in iron or lead-work, which has a peculiarly rich and agreeable effect when relieved by the sky, and of which another example is afforded in the town-hall of Cologne.

NOTES IN THE PROVINCES.

Bills for the consolidation of the various Acts relating to water-works, gas-works, public undertakings, and the construction or regulation of markets, &c., have been introduced to the House of Commons by Mr. Strutt, Sir George Grey, and Mr. Parker.——A licence, or faculty, has been decreed in the Consistory Court for taking down the ancient parish church of St. Nicholas, Loughton, and applying the money arising from the sale of materials towards the completion of the new church of St. John the Baptist, at Loughton, consecrated on 4th of November last.——Orders have been issued for the erection of a new military prison, in lieu of the one at Southsea Castle.——The Newport Water-works Company have just landed a large cast-iron tank at the town quay for a reservoir, and as an earnest of their intention to proceed with their beneficial measures as early as possible.——A bill has been brought into the Commons by Mr. Ward, Admiral Dundas, and Captain Berkeley, to empower the Commissioners of the Treasury to purchase land for the purposes of the projected harbour of refuge and breakwater at the north-eastern side of the isle of Portland. The expense will be defrayed from the 30,000*l.* already granted by Parliament for harbours of refuge.——Mr. Dredge has undertaken to erect a substantial bridge from Weston-super-Mare to the island of Birnbeck for the sum of 10,000*l.*——It is now understood, that the new county gaol at Winchester will be commenced immediately. The contract is said to be taken by a London builder. The work will be very extensive, and afford much employment during the summer. ——During the absence of the royal family from Windsor, many repairs, alterations, and improvements are to be made in and about the castle and its appurtenances. It is said, also, that the drains of the castle are to undergo another inspection and improvement in the course of the present summer, and that another corps of sappers and miners have been ordered up from Woolwich for the purpose. The new passage, in hand so long, from the basement story of the Brunswick Tower through and under the eastern terrace into the orangery, and so on into the Slopes, is now nearly completed. This passage was commenced many months ago, in order that her Majesty might pass from the interior of the castle to walk in the Home Park, without being crowded upon by the people, who almost fill the parterre, and the terrace inclosing it, on "public days." There are also many minor alterations and repairs proposed, which, it is understood, will all be completed before the end of the present spring. ——The question of erecting a new jail for the county of Bedford has been deferred for six months. The proposed building would cost, it is said, about 40,000*l.*, though estimated at a less sum. The original contract for the new model prison, which has been building in the adjoining county of Buckingham, and is fitted to hold about 200 prisoners, was 40,000*l.*; but the extras amounted to 7,000*l.* or 8,000*l.*, and the fittings-up to about 5,000*l.* more.—— A report on the sanative state of the town of Leicester, by "the medical sanatory officers" of the borough, lays bare the numerous sinks of corruption in the shape of filthy and overflowing cesspools, noxious drains, accumulations of night-soil, large uncovered privy-holes, pig-styes and their accumulated litter, slaughter-houses, &c., as the evident foci of fever pervading the borough. The prime necessity, too, of a complete system of drainage, flushing, and trapping, is pointed out, although it is admitted that the very large area which the town covers in proportion to the population—*ceteris paribus*, in itself an important advantage, —presents an expensive obstacle in the way of the accomplishment of so desirable an object. Hoping, however, that a Towns Drainage Bill may speedily compel its realization, the officers suggest the adoption of measures of "a bold and innovating character," for the thorough suppression of the other nuisances, with the noxious miasmata, from which the town and its human life are defiled and injured. ——Sir George Grey has refused to sanction the appointment of the medical officer, at Liverpool, under the sanatory bill, not in reference to the fitness of the officer (Dr. Duncan) himself, but because the Home Office is decidedly of opinion that the medical officer should devote his whole time to the duties of the situation, and refrain altogether from private practice. Of course his salary ought to correspond to these circumstances.——A correspondent of the *Doncaster Gazette* timeously suggests the propriety of considering the proper ventilation of the various rooms, courts, &c., of the new "Guildhall," now fairly begun. "I beg," he says, "to suggest an inexpensive, and, I think, an effective plan for obtaining so desirable an object. In the ceiling of each room there should be apertures—the number depending upon the size of the room—communicating with wooden trunks or spouts to be carried into air flues; such flues to be left in the thickness of the walls, or to be carried up as high or alongside the chimney shafts, and of course communicating with the outer air. The air trunks should be placed between the ceilings and the floors for the lower rooms, and for the upper rooms they should rest upon the ceiling joists. The fresh air to be admitted into the lower parts of the rooms through numerous openings in the plinths, covered with perforated metallic plates, which might be closed when required. By these simple means, the vitiated atmosphere would pass through the trunks and escape by the air flues, and a free circulation of uncontaminated air would thus be carried on, without any inconvenience to the persons assembled." Not so easily as he thinks, perhaps.—— The restoration of the chapel on Wakefield-bridge is progressing, it is said, satisfactorily, but must soon be discontinued, unless a further sum be subscribed. The tracery in the north, south, and east windows, with a cornice over them, has been put up. The estimated cost is 2,000*l.*, exclusive of contingencies, and not half of that sum has yet been subscribed.——It is proposed to form a company in Halifax, in 500 shares of 20*l.* each, for the purpose of building, in some central spot, a Town Hall, and other public buildings, in which may be concentrated the different boards and offices constituting the town's government, accommodation for public companies, &c.——We learn, says the *Glasgow Post*, that the heaviest shaft ever made in Scotland has just been completed at the works of the Monkland Iron and Steel Company. It weighs upwards of 10½ tons, and was made at the Moffat forge of the Monkland works, under the superintendence of Mr. John M'Ara.——At a full meeting of the operative joiners of Edinburgh, lately held in the Roman Eagle Hall, Lawnmarket, Mr. John Connacher in the chair, it was unanimously agreed that, in consequence of the present high price of provisions, and advance of rents, the joiner's wages should be 4½d. per hour in place of 4d., as formerly.

ANCIENT CHURCH OF ST. MARY AT DONCASTER.

Sir,—Seeing in your valuable journal an account of the proceedings of the Doncaster corporation, with respect to the ancient church they discovered in excavating for the foundations of the new Townhall, I cannot allow the matter to pass by unnoticed. There are now, alas! but too few specimens of our early ecclesiastical architecture, without destroying those we are so fortunate as to discover. Archæology is, I am happy to say, becoming more and more valued; but it would seem that the good people of Doncaster are semi-barbarians, and that they have not the power to comprehend the value of their discovery. In their eyes, perhaps, these ruins appear as mere misshapen masses of crumbling stone; for in spite of the petitions they have received from some of the leading inhabitants of the West Riding, and from the Archæological Institute, they must needs bury their church again in oblivion, and return the consoling answer, "that working drawings shall be made" of it. That this may be the last gothicism of which our country may be guilty, is the sincere hope of your humble servant,

James Stuart Worsley.

Winchester, Feb. 28th, 1847.

*** It has been very appropriately suggested, that the interesting ruins of St. Mary's Church be transplanted into the grounds of the projected cemetery, which must ere long be provided, and where these unique old Norman ruins of a defunct church might, by restoration, be converted into the chapel requisite for the ritual of the dead.

PROJECTED PUBLIC BUILDINGS IN SHEFFIELD.

We mentioned lately the proposal to erect a building of considerable magnitude in Sheffield, to contain a capacious hall, athenæum, &c. This, however, is but one of many projects now on foot for the improvement of this important town.

Memorials have been presented to the town council praying them, under the Act for establishing museums of art, to take early measures for the purchase of land, and the erection of a suitable building for that purpose. The memorialists justly urge, that it would have the effect of greatly extending the sphere of usefulness of the School of Design, would afford facilities for the *collective display in one building of all the chief Sheffield manufactures*, contribute to the recreation and instruction of the great mass of the population, conduce to the increase of knowledge and refinement of taste among the artisans, and prove an attraction to strangers, and a great ornament to the town.

It is to be hoped that the prayer of the memorial will be carried out forthwith.

New markets of considerable extent are also to be erected on a site bounded by the old Haymarket, the river Sheaf, Dixon-lane, and Castle Folds. The plan comprises three covered avenues, ranging from the Haymarket to the space in front of the Corn Exchange, with three entrances at each end. There will be two cross avenues and entrances in Dixon-lane and Castle Folds. The building will be in the Italian style, covered with an iron roof, and lighted by skylights. Its length will be 300 feet, and its width 120 feet.*

It is intended to erect a fountain in the centre of the open market ground, and the campanile, or clock turret, originally intended to finish the façade of the Corn Exchange, is also to be erected. Messrs. Weightman and Hadfield are the architects.

RAILWAY JOTTINGS.

The contractors, Messrs. Thornton, who, about five or six years ago, were expelled by the engineers of the Northern and Eastern Railway Company from some works on the line (now united with the Eastern Counties) near Broxbourne, for which they were contractors, have just had an award by arbitration, in a long-pending litigation, pronounced in their favour to the extent, it is said, of about 15,000*l.*, besides costs. A very large counter-claim was negatived by the arbiter, who had been appointed at the suggestion of the railway company themselves. —— The directors of the Great Western, we understand, have declined all the tenders made for the construction of the Hereford and Gloucester line, the contracts for which were lately advertised.——The works on the Gloucester and Forest of Dean will be forthwith commenced. An immense impetus, it is expected, will be given to the trade of Gloucester by the exportation of the almost inexhaustible resources of the Forest of Dean.——The Post-office authorities and the South-Western Railway Company have arranged for the conveyance of the mail to and from Southampton, Gosport, Portsmouth, and towns adjacent to that line, three times a-day. Similar arrangements are in progress with the other railways leaving the metropolis.——The viaduct over the river Barrow, on the line of the Great Southern and Western Railway, at Monasterevan, has been opened. It is nearly 500 feet in length, and consists of a malleable iron framework resting on ten slight stone piers. The width between the parapets is 25 feet. It is the fourth bridge of the kind which has been constructed by Sir John Macneill.——On Monday week, at Heaton Norris, says a contemporary, a detached waggon was caught by the wind, and went at a rapid and accelerated speed down the incline towards Manchester. Steam, seeing this, employed his full power in competition with the wind, and commenced a chase, with his train propelled before him, to recover the waggon so surreptitiously abducted. The odds, however, were too great, and old Boreas was victorious, having reached the winning-post at Levensholme in gallant style, and fairly distanced his grunting antagonist.——In accordance with the adver-

* The dimensions of the Green Market at Newcastle are 326 feet by 75 feet.

tisements, the tenders for the new passenger terminus, at Hull, were delivered in on Monday week. The new station is to be in Paragon-street; the south front opposite Ocean-place, with a carriage road for the "outward" trains that way; while from Paragon-street the "inward" trains will land on the north side, thus making Paragon-street the great focus for the transit of passengers. On the east side a large hotel forms part of the plan, having 40 rooms on the first floor, with two entrances, north and south, so placed as to catch "all comers." The two platforms are to be each 500 feet long, and 40 feet wide, and the works are to be finished by the 1st of August next, at a cost of upwards of 50,000*l.*——At a meeting of the Commissioners of Police, in Edinburgh, on Monday week, Mr. Douglas Campbell moved, "That the stoppage of the Sunday trains on the Edinburgh and Glasgow Railway tends to hinder and obstruct the police officers in the discharge of their duty, and give a new and dangerous advantage to criminals in their attempts to escape. That a memorial by the board in favour of resuming the Sunday trains be immediately forwarded to the directors of the railway, and that petitions be prepared to send to Parliament if found necessary." After considerable discussion the motion was lost; the numbers being, in its favour, 9; against it, 17. It has been already attested by the police that crime has been greatly diminished by the means afforded by Sunday trains, in forwarding the ends of justice, but facts like these are of no avail in the eyes of the objectors.——The railway communication between France and Bavaria is in course of establishment. The engineers on the line from Strasburg to the frontier of Rhenish Bavaria, have terminated the surveys; and the minister of public works has directed the prefect of the Bas Rhine to open the inquiry which must precede the presentation of the *projet de loi* to the chambers.

ELECTRO-TELEGRAPHIC PROGRESS.

The Electro-telegraphic Company are progressing in a business-like way, and appear to be in downright earnest in the advancement of their vast and enterprising project. Their proceedings towards the telegraphic organization of the metropolitan centrum-commune we have already occasionally noticed; but it now appears that they are simultaneously at work in opening negotiations with all the more important provincial towns for the deposition of telegraphic central plexuses, or ganglia, in the heart of each, to communicate with the great metropolitan head, and with every other centre. Their private, or rather public, wire-nerves are already strung along the lines of several of the great leading railway arteries of the country, on the standards erected by the several companies for their special uses, whereby great facilities cannot but be afforded to the operations of the telegraph; and agents have been sent into the provinces to prepare the way for the immediate establishment of the various centres. At a meeting of the merchants, shipowners, and others of the town of Hull, called by Mr. Cox on the part of this enterprising company on Monday week, to consider the subject of opening a station there, Mr. Cox declared the objects of his constituents to be the telegraphic connection of every important town in the island with every other, and of all with the metropolis; the company proposing, themselves, to undertake and conduct a separate station in every principal town, as near to its business-centre as possible, and to open a subscribers'-room, at which subscribers will have access to all extraordinary advices despatched to it in the course of every day; the telegraph to be also open to private communications at a small charge regulated by scale. The wires of the company, he stated, are already fixed from Rugby to Hull, and from Hull to Leeds, and wires are already fixed at Manchester and Liverpool. Intimations of the state of markets are to be simultaneously and immediately diffused throughout the electro-telegraphic realm, and various other special advantages afforded to the mercantile community. At the meeting in question, it was stated that considerable saving of money as well as time had already been realized by means of electro-telegraphic communication. Thus in insurance and in other ways considerable benefit has already been derived, and in the case of the "Lancaster," 10,000*l.* were redeemed. Between Hull and the Land's-end no less than the metropolis, the means of instantaneous and uninterrupted communication by question and answer will be opened up. The proposal was of course most favourably received, as it will be elsewhere and everywhere, and a subscription was immediately opened, and a sub-committee formed, in order to aid the company in their patriotic no less than profitable exertions.——Thus, as we have just said, this first and foremost association of its novel and interesting kind, is carrying out the electro-telegraphic progress in downright earnest, *et error nullus*; and at no very distant period in the embryotic gestation of our altogether new world, the metropolis of Great Britain will be the organized and vivified head and centre, not only of its own provincial members, but of the civilized world at large, which, so far from being in an advanced stage of maturity, is evidently but in an advanced state of fœtal organization and vivification, preparatory to being launched into a field of new existence, as a world of almost magical wonders; realizing, indeed, in this respect at least, the very idea of ancient magic, entertained in the beautiful old traditionary glimmer of antediluvian light incorporated in the story of two distant friends, who mutually conversed, though separated by empires or by oceans, through the talismanic aid of two magnetical or magical indices, which pointed correspondently to all the alphabetic characters towards which either, in its turn, might be directed. And, strange to say, not only had the ancients thus a distinct and almost literally correct idea, or legendary recollection, of the organism of the electric telegraph, but it can be clearly proved that the ancient chemists of the higher class were perfectly cognizant of the existence and the nature of the electric forces themselves, and of the solar chemical ray, which is so much akin to the electro-negative, and capable of evolving so new and peculiar a world of vegetative and other wonders in itself.——Our American brethren are contributing their quota to the electro-telegraphic organization and vivification of the world with hearty good will. An American printing telegraph is now being exhibited at Liverpool. "It is very clever," says the *Daily Express*, and what Yankee *invention* is not *clever*. "It prints the message which is sent by electric telegraph. Mr. Hyde Clarke has, however, invented an electric telegraph *which sets up type simultaneously* [in different towns!] so that a document can be composed in London and Edinburgh, and any number of copies printed off in each place at one and the same interval of time!"——By the telegraphic apparatus already in use between New York and Albany, the president's message was transmitted on the 5th January last, from the Legislative Assembly at Albany to New York, at the rate of eighty-three alphabetic characters per minute. There were 50,000 words in the message. The reading of it commenced at twelve o'clock, and in exactly three hours after, the entire document was handed, written out, to the newspaper editors one hundred and sixty miles off.——In the Senate, lately, a Mr. Morehead presented a memorial from the editor of a daily Cincinnati paper, asking Congress to invest him with power to form a company to extend the magnetic telegraph *across the Atlantic Ocean!* Referred to the Post-office Committee. Better refer it "to the marines," says an infidel.—Well it is hard to say. We have been taught by repeated experience since the establishment of steam, gas, railway transit, and electro-magical correspondence, to hesitate about denying the possibility of almost anything, however *visionary* or preposterous. All new inventions and discoveries are *visions* ere they come to be *realities*, and food for scoffery ere they are found to be worthy of all acceptation.

Many can do much.—A subscription has been set on foot for the sister of the late John Bonaventure Smith, a young artist prematurely cut off, after many struggles, just as his works were becoming known and appreciated. She and her children were solely dependant on him, and are left without the means of subsistence. Mr. A. J. Woolmer, of 7, Cleveland-street, has undertaken to receive subscriptions.

DUTCH CANAL-WORKS—BANKS, &c.

At a meeting of the Institution of Civil Engineers on February 23rd, 1847, the president in the chair, a supplement to the papers on the North Holland canal by Mr. Jackson, which were brought forward on the two preceding evenings, was read. It contained a description of the harbour and works at Niewediep, which might be considered as legitimately connected with the Helder canal, inasmuch as they were constructed with a view of affording shelter to vessels of war and merchantmen navigating the North Sea. The banks or shoals situated at the mouth of the Marsdiep channel act in a peculiar manner, they narrow the entrance, resist the undue influx of the tides, thus preventing injury to the coast of the Zuyder zee; they oppose difficulties to the entrance of hostile fleets, as the navigable channels run within range of the protecting forts; and they assist in maintaining the velocity of the currents, which keep the channels at their usual depth. On the coast of Holland, the ebb tides continue to pass off along the Noorder-gat a full hour and a half after the tide has commenced flowing up along the Schulpen-gat; this can only be accounted for by supposing that the tide runs up from the south-west, and enters the Schulpen-gat whilst the ebb still continues, in consequence of the draft of the tide northward along the coast. The Schulpen-gat and Landediep may therefore be termed the flood channels, whilst the Noorder-gat may be considered the ebb channel. Upon these spots, whose preservation was of such consequence to the country, the Dutch have lavished their best care, and exercised their ingenuity. The shoreworks consisted chiefly of groynes, composed of timber piles, and fascines, with stone covering. Their average length was two hundred yards, with slopes of about one in eight or ten. In consequence of the report of the commission appointed in 1780, the engineers, Brunnings and Goudrai, were instructed to proceed with the formation of a warping bank of fascines, 7,360 feet long, with double planking guard to accumulate the sand, in order to fill up the interstices of the fascines, and thus preserve them from decay. A breakwater also, 1,850 feet in length, 73 feet wide, at 3 feet below high water, with slopes of one to one.

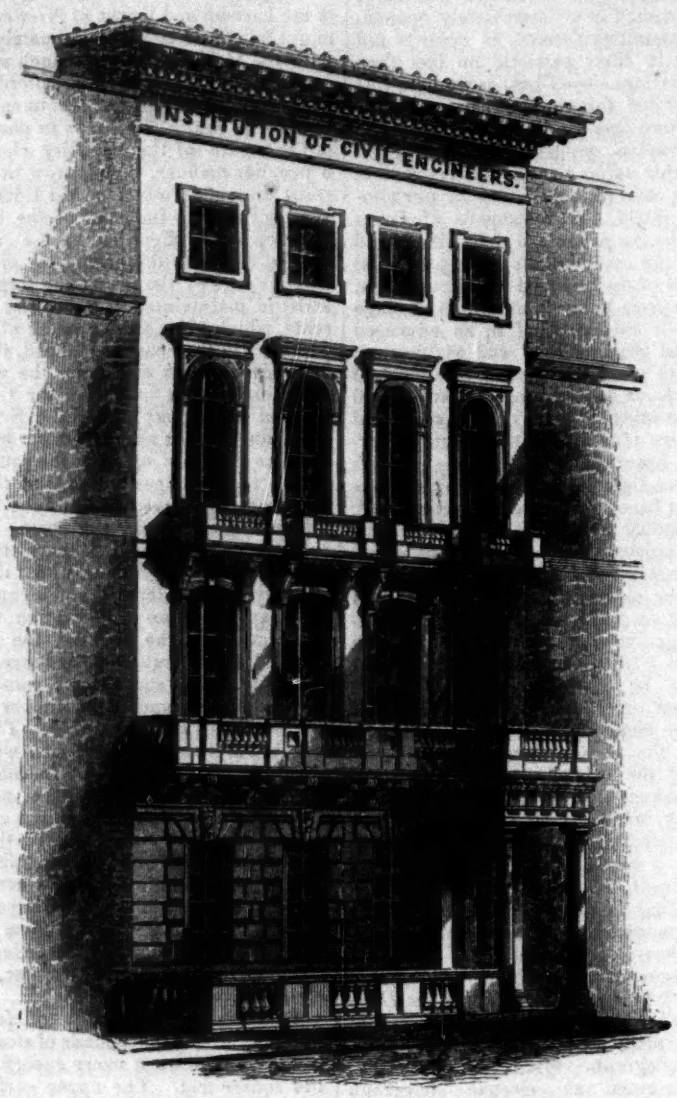
This was also formed of fascine beds, weighted with 2,000 pounds of stone and 4,000 pounds of tiles upon every superficial area of 144 square feet. The upper surface was covered with matting and made convex, the centre being one foot, and the sides three feet below the level of high water. Hurdling was then used, and the whole was covered with blocks of stone, weighing from 1,500 pounds to 1,800 pounds each. An additional length of 2,080 feet was subsequently built, and the warping bank being completed, and by means of these works the ebb stream was increased to such an extent as at once to deepen the channel 18 inches, although the bed was of clay. In 1783, dredging was resorted to, and with the action of the stream a depth of 19 feet was arrived at. The whole length of the proposed harbour was then dredged to a depth of 17 feet under high water level. Another warping bank of 3,675 feet in length was then constructed, with numerous groyns to arrest the sand and preserve the coast. A quay wall and jetty were then added; the piles composing the latter were covered with sheet lead between high-water level and one foot below the ground, in order to preserve them from the ravages of the "teredo navalis," which, however, it is the popular opinion, may be also prevented by driving the piles through fascines. A portion, 60 feet in length, of the breakwater, was torn away by a storm; this slip was filled up with large stones, but they were ineffectual, and fascines were ultimately had recourse to for repairing the breach. The depth of the channel was thus increased to nearly 35 feet, so that frigates could pass with safety.

In 1789, 151 vessels were lying there at anchor, fourteen of which were men-of-war, and four were East-Indiamen. The basin is 1,292 feet long and 646 feet wide, with large storehouses, dock buildings, fortifications, &c., of the most solid description, and thoroughly complete for a naval arsenal.

During the discussion which ensued, a description was given of Dymchurch wall, which defends Romney marsh, an extent

INSTITUTION OF CIVIL ENGINEERS.

[FAÇADE OF THE NEW BUILDING.]



of 24,000 acres, and also of several other sea defences at the mouth of the Thames and elsewhere, in which fascines were extensively used. The new embankments were also described. Specimens were shewn of the "arundo arenarea," a coarse grass, whose roots extend sometimes to a length of upwards of 30 feet, and which is eminently useful in securing the sand of the coast from being blown or washed away.

Among several cases of the failure of protecting walls, one was particularly described, of a nearly vertical sea wall, whose foundations were sunk down full 5 feet below the shingle of the coast. The wall was built with great care and with first-rate materials: it was, however, exposed to the action of a heavy sea in North Wales.

During a severe storm the waves were thrown up in a mass full 40 feet above the wall, and falling from that height with the force due to such a distance and mass, very speedily destroyed the whole wall. In quite as exposed a situation, a slope, which enabled the waves to expend their strength, and broke them up into foam, did not suffer at all. Numerous deductions were drawn from these and many other instances, all unfavourable to the theory of vertical sea walls, which it has recently become fashionable to recommend as a theoretically more correct form, in opposition to the well-tried plan of eminent civil engineers, who have almost universally adopted slopes for resisting the action of the sea.

THE THAMES TUNNEL is to be disposed of, if possible, to some railway company.

THE ALTERATIONS AT THE INSTITUTION OF CIVIL ENGINEERS.

WE have already noticed the alterations which were made in the house of the Institution during the late recess (p. 48 *ante*).

Above we give a view of the new façade, as executed in Caen stone, under the direction of Messrs. Wyatt and Brandon, so that non-resident members may judge for themselves of the improvement that has been effected externally.

As soon as the works were commenced, it was discovered that the foundation of the south-west, or front wall facing Great George-street, as is the case with most of the houses in Westminster, was laid upon timber, which had decayed. The wall itself was in a very insecure condition, and there were only slight bond timbers across the windows, so that the whole front was in a dangerous state. In order to remedy this, a new foundation of brick and cement, upon a mass of concrete, was put in, arches were turned over, and reversed arches under the windows; wherever it was requisite, the piers were repaired, and one was entirely rebuilt in brick and cement, nearly up to the second floor; above that level they were repaired, but on the third floor and attic, the entire floor fell down on removing the window-frames, and it was necessarily rebuilt. The front casing of Caen stone was carried up simultaneously with these repairs. A portico for the entrance, and balconies for the first and second floor, were added; and the height of the windows was increased, converting them into French casements, for the sake of improving the light and ventilation.

"The size of the new theatre is proposed to be, 45 feet long, 28 feet 9 inches wide, and 22 feet high, affording sitting accommodation to 235 persons, and a gain of space for 97 persons. The ventilation is provided for by a shaft rising from the centre of the ceiling to a large cowl on the roof, and a supply of warm or cold air can be admitted, through apertures in the skirting, from Price's warm-water apparatus, according to the temperature of the theatre."

Previously to the alterations, efforts were made, without effect, to obtain suitable land for a new building. Application was made for a plot in the new street, proposed to be constructed by the Westminster Improvement Company: the following extract from the report of the council, as recording the rent asked for land there may not be uninteresting.

"The Surveyor of the Company, although not at present in a position to quote positive terms, presumed, that for a piece of ground having a frontage of 40 feet in width, at the corner of the new square, opposite the west doors of Westminster Abbey, and 150 feet in depth, fronting the projected new street, the annual ground-rent would be 160*l.*, granting a lease of 99 years, but redeemable at 30 years purchase, or 4,800*l.*"

MANUFACTURES AND DECORATIONS AT THE SOCIETY OF ARTS.

ON Wednesday evening the Society of Arts opened an exhibition of select specimens of British manufacture and decorative art, which was attended by a very large number of visitors. Mr. W. Tooke, F.R.S., who has been a staunch friend of the Society, took the chair, and made a judicious appeal for aid in the course they were pursuing. Mr. J. S. Russell, the secretary, then read some introductory remarks, setting forth, that it was the first of a series of annual exhibitions, by means of which the Society hoped to contribute to the progress of those objects for the encouragement of which it was originally instituted; and commenting on some of the articles exhibited. He justly remarked:

"We are quite persuaded that the manufactures of this country can only prosper in so far as they are supported by the many, because the peculiarity of the manufactures of this country, more than abroad, is their wonderful power of multiplying. Foreigners produce an exquisite object of artistic usefulness in china or glass, but it is only one; another would cost the same sum, and that sum is such as to make it attainable only by the emperor or the favoured few. English manufacturers, on the other hand, produce a thousand from one. What a consummate artist has designed, they can multiply by the thousand. It is only, therefore, by the appreciation of the thousands and the millions, that taste, design and high art, applied to our manufactures, can be supported.

We want, therefore, by this exhibition, to place before the public a few selected specimens in some of the decorative arts, of what our artists, manufacturers, and machinery, have done and are doing for the advancement of their various arts to perfection. We wish to make their achievements more widely known and appreciated. We wish to show what they have done that is really good, and what might be still further improved. We are persuaded that if artistic manufactures are not appreciated, it is because they are not widely enough known. We believe that when works of high merit, of British origin, are brought forward, they will be fully appreciated and thoroughly enjoyed. We believe that this exhibition, when thrown open gratuitously to all, will tend to improve the public taste."

And again:—"If it should be objected to some of the articles here, that they are not so good as some that might have been obtained—we would answer, that is possibly true. If our visitors find fault correctly with any thing they see, we shall be as much gratified as if they praise. The one thing we wish them to do is, to praise and appreciate that which is good, and to blame where faults really exist. Let the visiter praise in the right place,—let him blame in the right place,—and the object of our exhibition has been attained."

We must look to the specimens themselves on another occasion.

Correspondence.

UNION OF MASTERS AND MEN.

SIR,—It has frequently occurred to me, that an association of masters and workmen in all the branches of the building trade (jointly or separately) would be very beneficial to the interests of that community. Under the present system of trades-unions, the master is frequently a severe sufferer, without any actual benefit to the really deserving workman, for his interest is sacrificed to support men inferior both in character and skill. My plan to remedy this evil would be, to form associations in every county, who should from time to time fix the rate of wages to be given to the operative, *classifying each man according to his abilities*, and admitting none of bad character to the benefit of the institution; and to discountenance all attempts to "strike" for advance of wages during the progress of the works for which he has been engaged. The committee to consist of an equal number of masters and workmen, to receive and decide upon all complaints from workman or employer; a register to be kept of the character and qualifications of every workman to be open to the inspection of all other associations throughout the kingdom, and a fund to be formed by subscription for relief during illness. Workmen would by these means have much less delay in obtaining employment, and receive wages in proportion to their merits, instead of the uniform rate demanded by the trades-unions, by which an experienced man is brought down to the level of the most inferior workman.

I am, Sir, &c., JACK-PLANE.

THE DECORATIONS AT THE SOCIETY OF ARTS.

SIR,—In your journal of December 19th, you have given your readers some remarks upon the decoration of the Society of Arts' hall. May I therefore take the liberty of requesting, as a particular favour, that you will now lay before them the opinion of the council of the society itself, contained in the accompanying official letter from its secretary.

Edinburgh, 27th Feb. 1847. I am, Sir, &c., D. R. HAY.

Society of Arts, Adelphi, London, 12th February, 1847.

SIR,—I have the honour to communicate to you the thanks of the Council of the Society of Arts for your valuable services in the painting and decoration of their great room. They are satisfied that your labours have greatly improved the general appearance of the apartment; more especially, they are satisfied that you have done what they chiefly desired,—that you have not detracted, by your style of decoration, from the effect of the large historical paintings by Barry, which hang on the walls; but the decoration has enhanced the effect of the paintings, and united them in one harmony.

They have also satisfied themselves, and fortified their opinion by the evidence of eminent authorities, that you have judiciously and successfully removed from the pictures the dust and soot which formerly obscured them, without injury to the pictures themselves.

I am therefore now desired to communicate to you their thanks for the manner in which you have fulfilled what you undertook; and as some slight acknowledgment of the esteem in which they hold your services (which so much exceed in value the amount for which you undertook the work), to request, on behalf of the society, that you will accept the accompanying copy of Mr. Barry's etchings of his pictures.—I have the honour to be, Sir, your obedient servant,

J. SCOTT RUSSELL, Secretary.

*** We willingly assist to make public this well-deserved acknowledgment of Mr. Hay's liberality. We need scarcely say it affords no contradiction to the objections to the work, as a work of art, that we felt compelled to make.

THE THEATRE OF THE ROYAL INSTITUTION.

MR. EDITOR,—In your number for Feb. 20, 1847, page 82, I see a note appended to an account of a paper read by Mr. Scott Russell at a meeting of the Institute of Architects, in which Mr. Godwin endeavours to correct the reader, who had stated, that the form of the theatre of the Royal Institution was arranged by "Count Rumford and Sir Humphrey Davy." Mr. Godwin stated, "that the arrangement of the theatre was usually attributed to the late Mr. Webster, the geologist, who built it, he being then an architect." I beg to state the facts. Mr. Webster was a *protegé* of Count Rumford, and, under him, drew out the first ideas of the proposed building, in which I assisted him, and also another young man, of the name of (I believe) Rand, who was afterwards a master carpenter in Poland-street. To Mr. Geo. Sanders, the architect, of Oxford-street, these ideas were submitted; and under his directions, the drawings were altered and perfected, and the theatre built. It was he also, in conjunction with some scientific gentlemen, who made many experiments in sound. The late Mr. Whitehead was the bricklayer, Hamilton, the mason, and Hancock, the carpenter. From the working drawings I made a perspective view of the interior, now hanging in my parlour. No doubt the annals of the Institution will state the facts, and, I think, shew that Sir H. Davy was not known in the matter at all. Mr. Webster assisted the first lecturer in his public duties, in which I have seen him often occupied.

M. C.

P.S. The construction of the roof of this building will richly repay the labour of inspection.

TENDERS FOR HACKNEY UNION.—With reference to the list of tenders for additions to this building, which appeared in THE BUILDER, we are requested by the architect, Mr. Ashpitel, to state that the quantities were not supplied by him, but were taken out by two surveyors, one on the part of the guardians, the other on the part of the builders. Messrs. Mansfield's tender was 5,200*l.*, not 5,500*l.* The circumstance of numerous items in the bills of quantities being for alterations to old works, for which only an approximate estimate could be made, is mentioned as one reason for the great difference between the highest and lowest amounts.

TO CORRESPONDENTS.

"*Fell.*"—Many thousands have been spent uselessly on the construction of locomotives for common roads.

"*H. C. L.*"—We have not yet found time to answer his question, but will do so.

"*C. B.*"—Notice must be given before beginning to make bricks. The duty, if we remember rightly, is 5*s.* 9*d.* per 1,000.

"*Justitia.*"—The statement is too complex to permit us to offer an opinion. We have no sympathy for those who forward designs in competition not in accordance with the instructions given.

"*New Buildings.*"—We are thankful for any intimation of buildings in progress.

"*G. F.*"—Next week.

Received.—"W. S." "J. C." (Albany-road). "T. P." &c. Cresy's "Encyclopædia of Civil Engineering" (Longman and Co.). "The Pictorial Gallery of Arts," Part XXVI., completing the work (C. Knight). "The History of Painting in Italy," translated from Lanzi, by Thomas Roscoe. New Edition, Vol. I. (H. G. Bohn).

ADVERTISEMENTS.

MORTGAGE AND ANNUITY OFFICE, No. 123, CHANCERY-LANE.

PERSONS requiring LOANS by way of MORTGAGE, or otherwise, upon any available security, may at all times procure an advance to the extent of from £100 to £150,000, or so much as the property will bear, by applying to Mr BRAY, surveyor, at the offices as above.

N.B. To expedite the procuration, personal application at the office would in all cases be better, the party bringing with them the abstract of title, plans, &c.

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ELIGIBLE GROUND, near Kentish Town, TO BE LET on Building Leases.—For the terms and particulars apply to Mr. H. A. HUNT, No. 4, Parliament-street, Westminster.

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FREEHOLD BUILDING GROUND, in this vicinity, TO LET, for Third and Fourth-rate Houses.—Terms and Particulars may be had of Mr. WATSON, 126, Wood-street, Cheapside.

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MOST eligible Freehold Building Land TO BE LET, in the immediate neighbourhood of the proposed New Park.—Apply to Mr. F. P. THOMPSON, Surveyor, &c., Water Works, Chambers, Orange-street, Trafalgar-square, where Plans may be seen, and particulars obtained.

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HANDSOME STONE FRONT FOR SALE, suitable either for a private residence, tavern, or shop, very recently fixed in one of the principal leading thoroughfares in London, comprising four fluted Doric columns, with semi-arches and carved entablature, TO BE SOLD, a great bargain.—For particulars apply to Mr. W. NORRIS, Builder, Hackney.

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"G. and J. DEANE'S 2 Hole Black Pens, 46, King William-street, London-bridge."

DECORATIVE ART SOCIETY, 49, Great Marlborough-street. General Meeting on Wednesday, 10th inst. a Paper "On the chemical properties of Timber," by Mr. Vizard. Wednesday, 31st inst. a Paper "On the influences of Light and Colours." "Attention is solicited to the fact, that the Meetings afford a suitable medium through which, by a free interchange of opinion, and the consequent mutual correction of erroneous ideas, a true appreciation may be formed of those principles which regulate the correct application of Art to its various purposes." Visitors' Tickets may be obtained from E. C. LAUGHER, Hon. Sec., 17, Sussex-place, Kensington.

LECTURES on DESCRIPTIVE ASTRONOMY, during Lent, at the ROYAL POLYTECHNIC INSTITUTION, by Dr. Bachhoffner, on the Mornings and Evenings of Mondays, Wednesdays, and Fridays, with ILLUSTRATIONS, in which the Latest Discoveries are included, accompanied with new and appropriate MUSIC, by Dr. Wallis. LECTURES on the ELECTRO-MAGNETIC TELEGRAPH, on the alternate Mornings and Evenings, illustrated by a variety of Models, including those of the recent Patent of Messrs. Foss and Gamble. CHEMICAL LECTURES. The OPTICAL EFFECTS include the last beautiful DISSOLVING VIEWS. EXPERIMENTS with the DIVER and DIVING-BELL, &c. &c.—Admission, 1*s.*; Schools, Half-price.

LONDON MECHANICS' INSTITUTION, Southampton Buildings, Chancery Lane. PERCY B. ST. JOHN, Esq., will Lecture on TEXAS and MEXICO, on Wednesday, 10th and 17th inst.

J. W. ROE, Esq., will give a MUSICAL ENTERTAINMENT, entitled, MUSIC, MIRTH, and MELANCHOLY, in which he will be aided by persons of professional talent on Friday, 19th instant. The Lectures commence at half-past Eight o'clock. Non-subscribers admitted by Tickets, 6*d.* each.

Subscription 6*s.* per quarter, with 2*s.* 6*d.* entrance. Tickets for the quarter just commencing are now issuing.

Prospectuses, containing particulars, may be obtained at the Library. A. McFARLANE, Sec.

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The attention of the public is invited to the following notice:—

The Deeds for carrying out the resolutions of the Shareholders in the Guarantee Fund of the BRITISH MUTUAL LIFE ASSURANCE SOCIETY are now ready, and the respective Shareholders are hereby requested to attend at the offices, between the hours of Eleven and Three, to sign and execute the same, when the old shares may be exchanged.

Applications may be addressed to the Secretary for the remaining unappropriated shares entitled to the advantages set forth in the following

RESOLUTIONS.

That for the purpose of extending the usefulness of the British Mutual Life Assurance Society, it is desirable to grant loans in connexion with life assurance, and that a guarantee and loan capital of 100,000*l.*, in shares of 10*l.* each, with a deposit of 1*l.* per share, and future calls not to exceed 3*s.* per share, at 30 days' notice, be substituted for the present Guarantee Fund. The Shareholders' liability to be limited to the number of shares they hold.

That all profits accruing from the loans shall be ascertained at the expiration of three years, and afterwards at the end of each year, and subject to the payment of interest at 5*l.* per cent., such profits shall be divided and paid as follows, viz., 2-5ths thereof as a bonus to the Shareholders, 2-5ths to be added by way of accumulation to the capital, and the remaining 1-5th to be added to the Assurance Fund of the British Mutual.

That upon such subsequent division of profits, the interest to be paid to the Shareholders shall be at the same rate, not only on the amount paid up on the shares, but also on the capital increased by such accumulations.

And that when the capital, by means of such accumulations, shall have increased to double the amount actually subscribed, it shall be divided and paid to the Shareholders, in discharge of their respective shares.

That in consideration of the anticipated advantages to accrue to the British Mutual by the assurances which will be thus gained, that the British Mutual Society shall have at all times the guarantee of the capital to meet unexpected claims by death, and in consideration also of the 1-5th of the profits from the loans being paid to the Assurance Fund as before mentioned, the British Mutual shall guarantee, from the Society's funds, to the Shareholders the payment of the interest, at the rate of 5*l.* per cent. per annum, payable half-yearly.

By order,

CHARLES JAMES THICKE, Secretary.

17, New Bridge-street, Blackfriars.

FORM OF APPLICATION.

To the Directors of the British Mutual Life Assurance Society.

Gentlemen.—I request you will allot me ..... Shares of 10*l.* each, in the Guarantee and Loan Capital of the British Mutual Life Assurance Society, and I hereby undertake to accept the same, or any smaller number that may be allotted to me, to pay the deposit of 1*l.* per Share thereon, and to sign the necessary deed when required.

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Residence .....
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Reference .....
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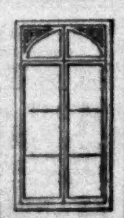

COMBE VALLEY SLATE COMPANY.—Capital 5,000l. in 1,000 Shares of 5l. each; deposit 1l. per Share.—Conducted on the Cost Book system. Offices, 5, Whitefriars Street, City.

The proprietors of this valuable undertaking, having after several months of persevering industry, now opened on, and cut through a large piece of rich blue rock, have great pleasure in informing the public, that their endeavours have been crowned with complete success. The Slate is of a most superior description, and suited to every purpose, that this material can be applied to. The management of the Company will be vested in the hands of three Trustees and a Committee of thirteen persons, all practical men—merchants, and traders, or otherwise more or less engaged in the Slate Trade. It will be conducted on an entire new principle; one never yet attempted by any other Company. To Builders it will present one of great advantage, inasmuch, as every shareholder may become an agent for the sale of the produce of the quarry, and he will moreover be able to have manufactured in small quantities, any kind of goods he may require, and to any plan, with the same facility, as if it were executed under his own inspection in his own workshop. But no other than shareholders (at the price) can be expected to participate in these exclusive benefits. The quarry is situate in the parish of St. Gluvias, Cornwall, within 1 mile of the harbour of Creeping-ton, on the Bristol Channel. It consists of 7 acres of land, all one entire bed of Slate 6 feet below the surface, and is held on a lease of 21 years, at the nominal rent of 20l. per annum, with no royalty.—Estimates carefully prepared, plans of the estate, sections of the workings—and specimens of the slate may be seen at the Office where also prospectuses may be obtained.—Application for shares can be made to Mr. JAMES LANE, 75, Old Broad Street, City; Mr. THOS. SANFORD, Exeter; Messrs. TYETH & LUSCOMBE, Plymouth; Mr. H. MANSELL, Guildford, Surrey; at the Office of the Builder; and at the Company's Office, of the secretary, CHAS. SAML. RICHARDSON.

GAS.—The Introduction of Gas into private dwellings is rapidly increasing; it is therefore of the greatest importance not only to the consumer but to the gas company and gas fitter, that the most secure and simple means of regulating it be applied. The patentees of CARTER'S SAFETY GAS VALVE, can from many years' experience and the high testimonials they are daily receiving, confidently recommend it to all persons interested in gas lighting, as being more secure, more durable, and not so liable to get out of order, and in every respect superior to the old plug cock, so frequently leaky or out of use by corrosion. It has the advantage of being inexpensive, and easily adapted to any description of fittings. Manufactured by the patentees, T. LAMBERT and SON, at their Gas and Steam Apparatus and Metal Pipe Works, 30, New-cut, near the Blackfriars-road.

BUILDERS AND IRONMONGERS are requested, when writing for JENNINGS'S SHOP SHUTTER SHOE AND FASTENER, to send the finished thickness of the Shutter, and also at which end of the front they commence putting up the Shutters (RIGHT OR LEFT), as they face the front.

JENNINGS'S SHUTTER FASTENER.

Shop Fronts are more damaged and disfigured by the Shutter Bar than from any other cause. Bars are a trouble to put up and take down, and troublesome when down. JENNINGS'S REGISTERED SHOP SHUTTER FASTENER supersedes the destructive Bar, and answers the purpose also of a shutter shoe. The shoes and fasteners being made of brass, afford greater protection to the corner of the shutter, and leave no rusty deposit on the stall-board in damp weather. Hundreds of shops have been secured by the inventor, and testimonials of their ease and efficiency may be obtained from the occupiers. A front, containing eight shutters, secured for 24s., or a new front shod and secured for 40s. A liberal discount allowed to Builders, Ironmongers, and Painters, who introduce it to the notice of persons whose shops they decorate.—To be had of the Inventor, 29, Great Charlotte-street, Blackfriars-road, or of any respectable ironmonger.

SNOXELL'S PATENT SAFETY REVOLVING WOOD SHUTTERS.

Manufactory, 90, Regent-street, and 131, Chancery-lane.

THE Patentee having fixed a great number of his shutters in London, and given universal satisfaction can confidently recommend them both for security and durability, the edges being sheathed with Iron. Their construction is so simple that the largest establishment can be opened or closed with the greatest possible ease without the use of machinery. Their superiority over other revolving shutters consists in their great strength and stiffness, being without metal hinges, consequently cannot rust, buckle, be strained, or get out of order, and are safer. Persons dissatisfied with the patent rising gear now used for iron shutters can have it removed, and the shutters made to draw up in any part of the premises with the slightest exertion, without machinery, thereby avoiding the unpleasant use of oil.

REVOLVING SAFETY SHUTTERS,
WITH PATENT CONVEX IRON LATHS.
PATENT CORRUGATED WINDOW BLINDS, &c.

The attention of Architects, Builders, and Blind-makers is requested to the IMPORTANT IMPROVEMENTS in the above articles, and inspection invited at the manufactory. The great importance of strength and stiffness in the laths of REVOLVING IRON SHUTTERS, in affording increased security is obvious, and it is only necessary to point out the fact, that the patent convex laths are 12 times stronger than the ordinary flat laths, to insure their general adoption.

The patentee invites attention to his greatly improved gearing, for raising and lowering his patent shutters, which, possessing all the advantages of the endless screw (worm and wheel) cannot, even by wear, be liable to run down, and entirely avoids the necessity of using the ratchet-wheel; and is at once simple and thoroughly effective, and is SAFER and MORE DURABLE than any plan yet adopted for that purpose, thus rendering his Patent Revolving Shutters the SAFEST and MOST EFFECTIVE in use. These shutters are fixed horizontally (either above or below the window or door) or vertically, for which position the greatly increased strength of the convex laths renders them peculiarly suitable. THE PATENTEE IS THE SOLE MANUFACTURER OF REVOLVING SHUTTERS, WITH CONVEX IRON LATHS. Engravings and prospectuses forwarded on application. IMPROVED DRAWN METALLIC SASH BARS, ASTRIGALS, MOULDINGS, STALL-BOARD PLATES, &c. —Patentee and Manufacturer, JOHN HARCOURT QUINCEY, 115, Old-street, London.

INJUNCTION.

BUNNETT and CORPE'S Patent REVOLVING IRON SHUTTERS.—Since the verdict found in favour of the Patentees, in the Court of Exchequer, in the action tried by order of the Court of Chancery, that Court has granted a perpetual Injunction for restraining all infringements of this Patent, and therefore all parties are hereby cautioned against infringing the same.

THE PRICES ARE GREATLY REDUCED, and BUNNETT AND CORPE'S PATENT IRON SHUTTERS ARE THE CHEAPEST AS WELL AS THE BEST. They are made with convex laths, if required. The worm and wheel motion for raising and lowering revolving iron shutters (as secured by this Patent) is the only safe and durable mode of effecting that object. In large shutters it is indispensable.

Some thousands of Bunnett and Corpe's Shutters have now been put up, without a single complaint of their want of strength or security; and nine years' practical experience (during which they have adopted every real improvement) enables the Patentees to challenge comparison with any others. They will guarantee all Shutters put up by them to keep in order, and last twice as long as any with thin convex laths.

B. and C. also manufacture REVOLVING WOOD SHUTTERS the Patent for which has expired), at the same prices as other makers, but greatly superior, being fitted with their patent raising gear, and proper metallic hinges, without which no shutter can be safe or durable.

BUNNETT and CORPE are likewise Patentees and Manufacturers of METALLIC SASH-BARS, MOULDINGS, &c., IN BRASS, COPPER, OR ZINC, FOR SHOP FRONTS, WINDOWS, SKYLIGHTS, AND VARIOUS OTHER PURPOSES.

Shop-fronts fitted with Iron Shutters, Patent Brass or Zinc Sashes, Plain or Ornamental, handsomely Engraved, Moulded, Stall-board Plates, best Plate Glass, and Internal Brass Fittings of all kinds, superior in quality and workmanship, and lower in price than any other house. Contracts taken in Town or Country.

Metal Drawing and Stamping for the Trade.

Offices at No. 26, Lombard-street, London; Works, at Deptford, Kent.

Steam-engines, Sawing, Planing, and Moulding, Cutting-machines on Improved Plans, especially adapted for Builders' purposes, may be seen in operation at the Works.

By Her Majesty's Royal Letters Patent

WILKINS'S "SILENT" WATER-CLOSET.—To Architects, Surveyors, and Builders.

Gentlemen,—Your attention is respectfully invited to the above "Closet," the peculiar qualities of which are, that it is perfectly silent in the action of the Machinery and the supply of Water, and may be fixed in any convenient place in the House, without communicating the sound of a Water-closet to any of the adjoining Apartments, while it retains all that is useful in the ordinary Closets, it does away with the Ball Levers, Wire, Cranks, &c., which cause much of the noise to which the old closets are liable. The want of a Water-closet more suitable for the present mode of fixing them in the internal parts of Dwelling Houses and Office Apartments, has long been felt, and the benefit to be derived from one that is "Silent" in the action of the Machinery and supply of water, is sufficiently obvious to render unnecessary any lengthened comment in its favour.

This Closet is simple in its construction, the whole of the apparatus (including the trap), being completed between the floor of the room and the seat of the Closet, thereby rendering it quite easy to remove any noisy Closet and fix the "Silent" one in its place, without interfering without the trap, which is generally embedded between the floor and ceiling below the Closet. The "Silent" Closet is also clean, and so free from any effluvia, as to allow of its being fixed in any bed-room (where there is a convenience of fixing a pipe down the outer wall of the house) without occasioning the least unpleasantness whatever.

May be viewed Daily, and Orders taken at No. 98, Gower-place, University College, London.